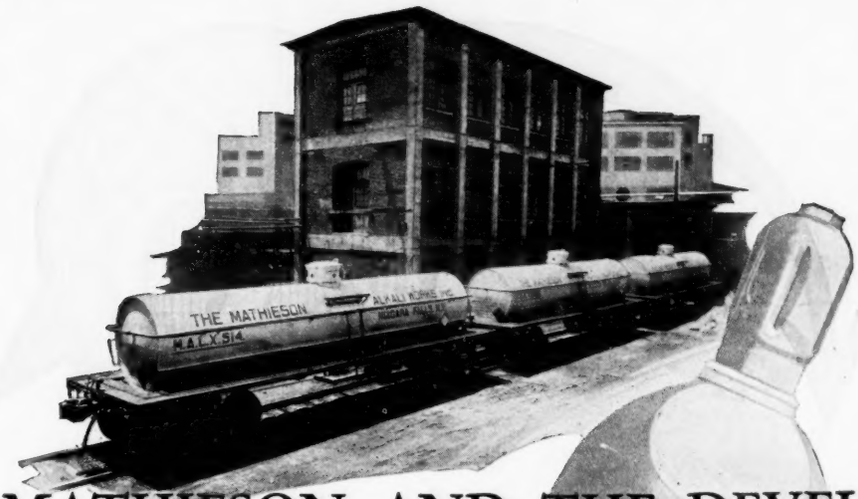
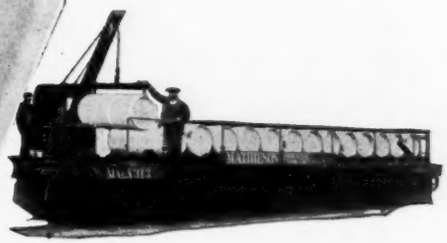


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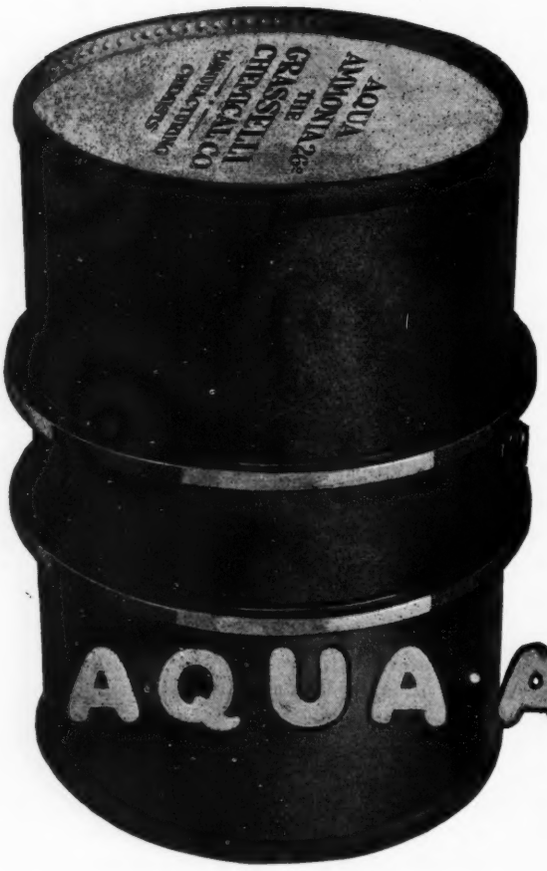
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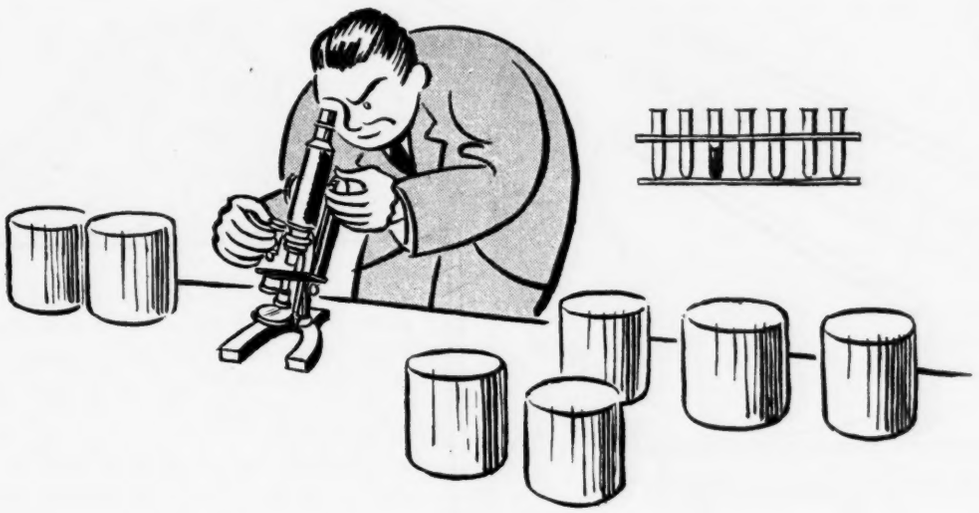
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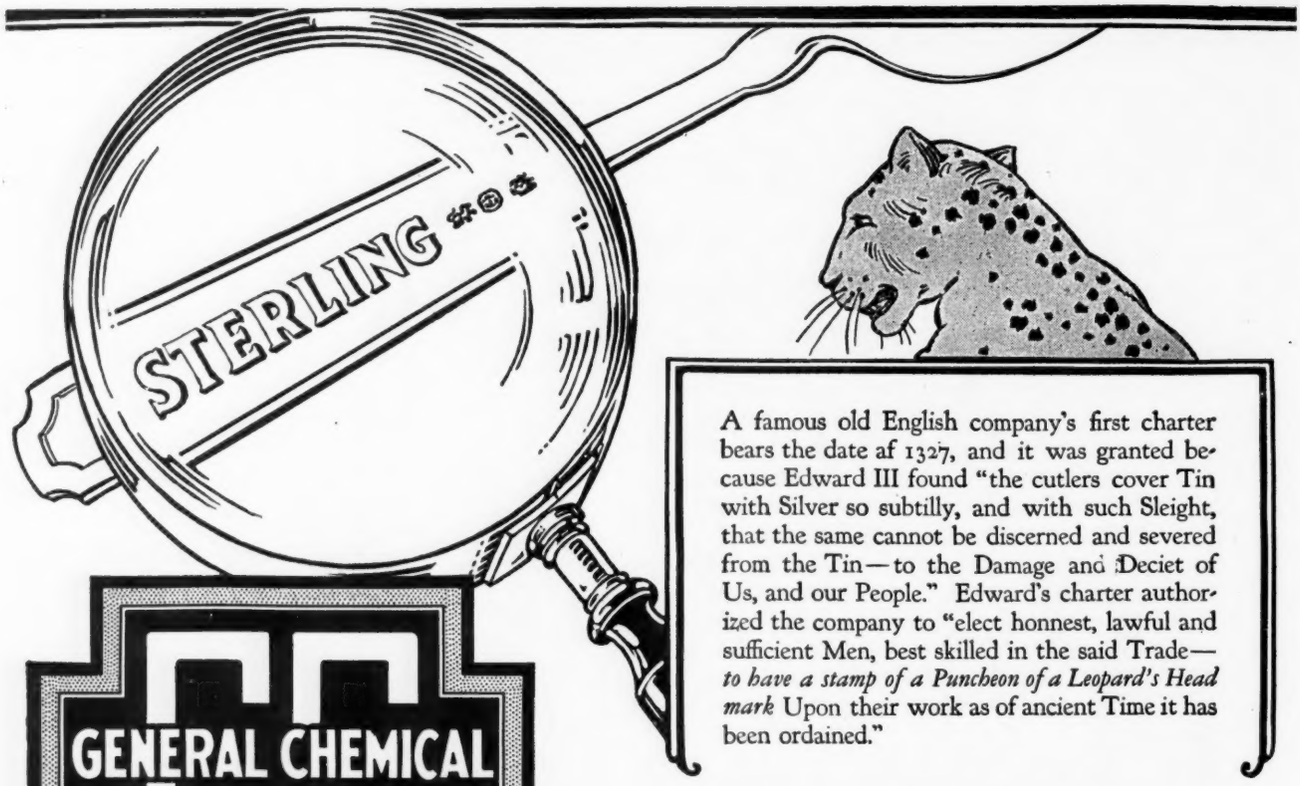
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255

Aknow Acetaldol

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CHEMICAL MARKETS

VOL. XXIII. JULY, 1928 No. 1.

The Common Cause

COMMON enemies are the strongest bonds of any alliance, and never before have the chemical industries had better common cause to present a united front. The startling growth of foreign chemical combinations is threatening. A proposal to extend our chemical exports under Webb-Pomerene Law associations is afoot. American bankers need to be impressed with the unfriendly dis-service alike to our manufacturers, our investors, and our labor in foreign industrial loans. Because of health hazards, claimed with careless disregard of facts and a curious ignorance of modern working conditions, much pernicious propaganda against chemicals is being broadcast. Almost certainly the next Congress will revise the present tariff. Common causes enough here surely—big, vital, vigorous problems raised that can concern many branches of the industry.

IT is timely, therefore, to revive the proposal which CHEMICAL MARKETS first made five years ago that the multitude of chemical trade associations band together in a Chemical Chamber of Commerce and by uniting their resources and influence, while avoiding duplicated work and cross-purpose effort, accomplish easily what is now impossible or only to be done with difficulty. That this proposal of ours should now for the first time win the active support of other chemical trade papers encourages us to believe the seed has not all fallen on stone ground and that the harvest time approaches.

SEVERAL years ago this proposal went so far as the drafting of a constitution for this proposed union of chemical interests and arrangements for the financing of a chemical headquarters building in New York. It was blocked chiefly by a few men prominent in the affairs of some of the trade organizations. Time has not only brought more common enemies, but it has also removed for the arena of association affairs some of the more active obstructionists, so that the long cherished plans of consolidating the industries' co-operative efforts promise to mature.

PLAINLY enough a program of this sort is beset with many and peculiar difficulties; but it is open to doubt whether these are more serious than faced the leaders of the paper and automobile industries, or the music and candy trades when they set to work to consolidate organized effort in these fields. What appears—to be needed judging from the replies to our questionnaire—is a clear vision of the purpose in view, a wisely drawn plan, and a vigorous determination to accomplish the results which an overwhelming majority of the industry want.

The Right to Fight

Mr. Bashford, who comments so vigorously on our editorial "Patents and Property," might well have added to the strong case presented in his letter appearing in this issue, certain abuses of our patent system whereby it is actually cheaper to steal a patent and drag the case through the courts to an ultimate compromise settlement than it is to pay royalties. This ingenious method also avoids all the expenses of original research work and the high costs of developing and promoting or an improved process. That such a policy is deliberately adopted need not be doubted if one investigated but for a moment the patent litigation records of our petroleum and automobile industries.

Page Professor Ripley

In England the attitude towards big business is different than here, and the organization of the Imperial Chemical Industries, Ltd., was greeted throughout British chemical circles with acclaim. Even chemical consumers raised no protest. The chemical press has been filled with fulsome praise. Sir Alfred Mond has been made a baron. All the more striking by way of contrast therefore, comes a sharp criticism of the I. C. I. from the London "Nation," a criticism, incidentally, which has been echoed even in some of the chemical publications. Says the "Nation:"

> "It is a pity that Sir Alfred Mond, a captain of industrial combines the great expansion of rationalization in post war industry, should not have applied the principles of rationalization to the first accounts published by the great industrial combine, Imperial Chemical Industries, Ltd., over which he presides as Chairman. Imperial Chemical Industries, Ltd., is a holding company, and for the accounts of a holding company to be intelligible it is essential that a consolidated income account and balance sheet be issued which will show real earnings and assets of the subsidiary companies. It is true that not many holding companies in this country publish consolidated balance sheets, but it is for Sir Alfred Mond, as a leader of industry and good-will between capital and labor, to set a good example . . . Holdings are merely described in the balance sheet as "investments at cost—shares of subsidiary and associate companies, £58,109,775, and other industrial investments £699, 625—total, £58,809,700.

Apparently the honeymoon is waning. If this criticism had come from a radical journal, advocate of the Labor Party or special pleader for any one of the various pink to crimson shades of British socialism, we could very easily understand its promptings. It has appeared, however, in a preeminently dignified, if progressively inclined, weekly which is an accepted leader of liberal thought. While there may be a bit of lurking antagonism roused by the new baron's shifting political position, nevertheless, that editorial comment reflects a questioning spirit that shows resentment against the blanket balance sheets of big corporations whose securities are traded in publicly.

We have in America several chemical companies with these characteristics, and their financial statements range all the way from detailed frankness to complete obscurity. The general public in this country is quite obviously less friendly to the big industrial holding operations than are people abroad, and there is little doubt that more financial publicity for companies whose stocks and bonds are listed on the various exchanges is sooner or later going to be demanded. The investment trusts will be an educational factor in this movement, and while there are certain obvious competitive disadvantages in too detailed figures, nevertheless, this is a movement which in the not distant future bids fair to assume compelling strength.

Officialdom Rampant

Although it has always been admitted that the distinctions between fine and heavy chemicals are not capable of exact definition, nevertheless, in a practical, work-a-day way there has been generally little confusion in the trade in the use of these terms. Even in the case of such disputable products as glycerine, alcohol, bicarbonate of soda, and others which enter largely into both branches of the chemical trade there was no serious misunderstanding until the British law for protecting key industries made an exact classification a matter of imperative commercial concern. The recent British definition of "calcium phosphate of baking powder grade" as a fine chemical flies in the face of all trade precedent and custom.

The new referee appears to be preemiently unfortunate in this initial decision. In the first place, the British manufacturers who petitioned to place this product in the fine chemical list apparently coined their own grade designation, for "baking powder grade" was never before heard of until their complaint was filed. Secondly, calcium phosphate of this grade is used as a cheaper substitute for cream of tartar, which had been moved from the fine to the heavy chemical list. Thirdly and quite ironically, the British manufacturers are producing in the main a 50%

grade, while the imported material from America is in the 80% grade, guaranteed to contain less than 2% of calcium sulfate. Lastly, the refusal of the referee to consider past precedents and his blunt issuance of a decision with no reasons or explanations is not creating the best feeling of confidence and respect.

From this distance the affair appears to be a rather pretty sample of officialdom acting ignorantly and arbitrarily. The British trade press has not hesitated to criticise severely not only the way in which the hearing was conducted, but the decision reached. We are familiar with cases of this sort in the States, and we wish them well in their protest.

Hoover's Successor

Most of the praise which has justly come to the Department of Commerce for its efficient service to industry can be credited directly to Herbert Hoover, and choosing his successor for this cabinet post will be no mean task. He has made the Department of Commerce one of the most important constructive agencies of the Government and this good work should be carried forward in strong hands.

In view of the importance to all American industry which the chemical industry has assumed during the past decade, and with the prospect that within the span of the next Presidential term, chemicals will continue to grow in importance in our national economics, it is quite fitting that the choice of Mr. Hoover's successor should fall upon a man thoroughly familiar with the workings of this industry.

Albert W. Hawkes would probably be first choice of chemical men. Charles H. MacDowell of Illinois, who knows the farmers' problems and served at Versailles as Chemical Advisor is a logical candidate. Charles L. Reese and Milton C. Whitaker, both outstanding technical men with broad industrial experience; Orlando F. Webber of New York and Eugene Grasselli of Cleveland, well known in the industrial world; John J. Watson and Horace Bowker, who was head of the Chemical Alliance during the War, leaders in the fertilizer industry and each extremely capable, and John Lucas of Philadelphia, a dominant figure of the paint, lacquer and allied fields, are a few who come to mind as the type of men capable of filling Mr. Hoover's shoes.

Our British Visitors

Commenting editorially on the visit of British Chemists to Canada and this country for the meetings of the Society of the Chemical Industry in New York and the Fall meeting of the American Chemical Society at Swampscott, London trade journals express surprise at the large number of reservations which are on hand. When the original plan of the tour was conceived there was some skepticism expressed as to just what extent the idea would "take hold" on the other side. The necessity of booking space on steamers other than the one provided for the tour is indicative of the enthusiasm with which the chemists have responded.

The presence assured of such a representative group of British chemists, one naturally turns to the itinerary of the visitors through Canada and the United States for reassurance that their guests will have ample time to visit at the various stopping points. It seems peculiarly fitting that the American committee has arranged a program containing names—both company and individual—of a nature to assure the visitors of an intensely interesting—if somewhat hurried—view of the industry in the Eastern section of the country, as well as various forms of entertainment which should long recall pleasant memories.

GETTING RID OF ONE SUPERSTITION



Wall St. Journal

They Say:——

The substantial progress that the fertilizer industry has achieved in eliminating harmful competition and the adoption of more stringent credit sales policies are favorable developments that have occurred within the industry itself. The combination of these elements with prospects for a fairly large agricultural income during the coming season is distinctly encouraging.—*Guaranty Trust Company.*

One of our greatest problems is to bring to the aid of governmental bodies the technical advice and knowledge of our professional groups. Obviously legislative bodies must be free to work out their own solutions, but, nevertheless, it would appear logical that if all the professional groups had some means of expressing themselves nationally they could be of great service.—*Dexter S. Kimball,*

To-day we are in the throes of what may be called the "chemical revolution." The stuff of which the universe is composed is being torn apart, molecule by molecule, atom by atom, and out of the atomic fragments new kinds of matter are being created and the release of a new kind of energy is promised.—*Waldemr Kaempffert, New York Times.*

It seems very doubtful if there is any escape from the penalties of an over-expanded productive plant except through the writing down of investment overhead which represents the margin on which particular industries cannot reasonably expect to earn a satisfactory rate of return in the face of modern competition. —*The Annalist.*

Some Germans believe that their chemical industry is on a sounder basis than ours; but they also believe that in time we shall see the wisdom of greater reliance on men of the highest scientific and technical training, academic and industrial and bring them into the councils of the industry.—*Chemical and Metallurgical Engineering.*

The difference between the victors and the vanquished is that the former have refused to go in for "volume at any cost." They have stuck to the idea that the quoting of prices must be conducted in a scientific manner based on actual cost plus a fair profit.—*Floyd W. Parsons.*

The tremendous sweep of the Southward movement of industry, added to the activity on the part of Southern people themselves in developing their own manufacturing interests is one of the outstanding phases of the business life of American at present.—*Manufacturers Record.*

Good wages can only be paid through profitable employment. Employment is dependent on mass production. Mass production is dependent on mass sales, and mass sales are only secured through advertising.—*Calvin Coolidge.*

The synthetic dyestuff industry is one of the greatest, most interesting, and fruitful industries which has ever existed, considered either from the technical or scientific point of view.—*Dr. Robert E. Schmidt, British Perkin Medalist.*

The basis of customer confidence is a dependable product and adequate service.—*Clarence M. Wooley.*

Never was a product made that someone couldn't make worse and sell for less.—*Andrew Carnegie.*

Ten Years Ago

From "Drug & Chemical Markets", July 1918

Completion of the organization of the Chemical Warfare Service is announced. Henceforth all phases of gas warfare will be under the control of this unit, commanded by Major General William L. Sibert.

Ash from banana stalks and skins contains from 40 to 50 per cent. potash, according to a statement by Philip E. Browning of Kent Chemical Laboratory, Yale University, in the "New York Times."

War Industries Board takes over control of the chlorine industry and will allocate production under the direction of H. G. Carrell, chief of the alkali and chlorine section of the Board.

Monsanto Chemical Works is recipient of inquiry from London regarding the feasability of shipping $100,000 worth of saccharine by submarine to relieve the acute shortage on that market.

New York bondholders of Federal Dyestuffs and Chemical Co. bid in the property at Kingsport, Tenn. for $1,000,000. The sale took place under receivership litigation.

U. S. Trade with European neutral countries for the fiscal year of 1918 is the smallest in many years, while 1917 was the largest in the history of our commerce.

Charging profiteering in aqua ammonia in certain quarters, fourteen leading producers sign appeal to the trade to suppress the unpatriotic profiteers.

Government stabilization of antimony prices is recommended by miners, smelters and importers at San Francisco meeting of U. S. Tariff Commission.

Heyden Chemical Works, called one of the largest German chemical companies, is taken over by the Alien Property Custodian.

Consolidation of British Dyes, Ltd. and Levinstein, Ltd. is proposed at recent joint meeting of shareholders of each company.

Foreign Loans
and
Domestic Industry

By William B. Thom
President, Warner-Westvaco Chemical Companies

American chemical industrialists have reason to suspect the growing habit of American bankers to furnish American dollars to manufacturing enterprises in Europe which are present or potential competitors. As Mr. Thom aptly points out, many bankers consider this "good business", while almost without



exception American business men question the propriety of having their own hard-earned deposits used to aid and abet commercial rivals. The questions Mr. Thom raises are no empty academic phrases; they probe the roots of a problem of national financial policy.

AMONG the world-wide post-war readjustments none is more basis than the change which has come to the world's monetary situation. Our American position has changed radically from that of a creditor nation to the world's greatest store house of surplus capital. Naturally enough this capital must seek employment, and with the majority of our own industries over-equipped in plant capacity to supply our domestic needs, and with foreign markets largely closed to us because of our high costs of production and their limited purchasing capacities our American industries are not, in the main, planning expansions that require much further financing. Our era of railroad building, and of the exploitation of natural resources which during the closing half of the last century absorbed vast sums of money is closed, and it is generally admitted that we are entering upon a period which will require not so much additional capital as it will the consolidation of our productive efforts, the improvement of our manufacturing methods, and the perfection of our distribution system—all of them the tasks of management rather than of finance; all of them calling for economies rather than expansions.

It is, therefore, unreasonable for us to expect that we will need for our domestic industrial uses any considerable portion of the vast store house of gold which we hold to-day.

I hold it inevitable, therefore, that we must make foreign investments. I consider, moreover, that this is economically sound, politically wise, and will be financially profitable. The nations of Europe crippled by the war are sorely in need of capital to build themselves up. The vast countries of South America, Asia, and Africa are going to be called upon more and more to supply our American industries with raw materials, and as they advance economically they should become good customers for our surplus production. While there are many differences in the world wide economic situation as it existed prior to the war, nevertheless, we are, whether we like it or not, in a position comparative to that which Great Britain held prior to 1914.

Within the past few months there has come almost imperceptibly a marked change in the character of our foreign loans. Quite naturally the first financing that was based here after the war was based upon the broad and well established credit of foreign nations, followed by the sale of foreign municipal public service and banking securities.

But still we have a surplus, and there is a steadily increasing tendency to use this in loans to European industrial enterprises.

It is this change in the character of our foreign loans that I want to question seriously. These same questions are troubling my friends in industry, and I am hard put to it to understand why my friends

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in financial circles do not seem able to fathom the real cause of our concern.

Is it helpful to American industry to have to supply American capital to our actual or potential competitors in Europe? Unanimously American industrialists answer "No."

Is it good business for American bankers to assist with capital even at attractive rates of interest firms who will, to put it mildly, certainly weaken the economic position of the bankers' American customers. I am afraid that the majority of American bankers answer to this leading question "Yes" or at the most "Probably."

Our Economic Position

We in America, behind our tariff wall, are living upon a scale unprecedented in the world's history, and which might be compared with the rest of the world to-day as the top of the Woolworth Building with the Broadway street level. Our entire population enjoys as common necessities goods which are the rarest luxuries in Europe and which are utterly undreamed of in Asia. But this American scale of living—which we all of us want to protect—places upon our productive industries enormously high costs not only of plant labor, but of office and administrative overhead, and even in our domestic raw materials, building operations, land values, machinery, equipment, and what not. No thoughtful man believes that we can always live as high above the level of other civilized and progressive countries as we do at the present time. If our resources are employed, as they are bound to be to a certain extent outside our own country, it must be at a profit to ourselves and a benefit to those who make use of them. We cannot avoid helping others while we help ourselves. Those tasks of management in the interests of economy, which I have pointed out, must be well and quickly done; and at the same time we must use our capital surplus to help raise the living standard of countries less economically advanced than ourselves. In doing so there is, to my mind, and I find no confusion on this point among industrialists, a fundamental difference between foreign loans to governments, to municipalities, to transportation, and public service enterprises in the industrial countries of Europe, and loans to manufacturers in whatever field among those same nations. There is even greater distinction, and accordingly, a greater general benefit to the American people in loans to countries not so advanced in industry as we are, wherein South America, Africa, and Asia capital is sorely needed to build railroads and highways, to open up productive lands and mines with the purpose of bringing more raw materials at less cost to our factories while, at the same time, bringing prosperity and consequent buying power to the inhabitants of those vast nations. These distinctions were woven intimately into the traditional Biritsh financial policy. The pound sterling has developed thousands of acres of virgin land, built far reaching transportation systems, dug miles of mines, but it was seldom invested in the factories of such competing nations as Germany, The Netherlands, France, Italy, or Scandinavia. British bankers deliberately fostered the exploitation of raw materials, and the mechanics of world wide trade, but they were chary, indeed, of placing their resources at the disposal of manufacturers who would compete with the industries of their own home country. That policy was good business, and I submit that it is a pattern which our American bankers should follow.

New Incorporations

Burbank Chemical Engineering Corp., New York. W. F. Cogswell, 64 Water st., 500 shs common.

Gaskill Chemical Corp., Jersey City, N. J. Corporation Trust Co., Jersey City, 1000 shs common.

Slickshine Chemical Co., Inc., Newark, N. J., polishes. William Harris, Newark, 100 shs common.

Arkmo Gin Co., Wilmington, cottonseed. Corporation Trust Co. of America, Wilmington, $300,000.

Curtin Howe Corporation of Del., New York, industrial chemists, engineers. Prentice, Hall & Co., Dover, $5,000.

Fostex Corp., chemicals, New York. Gilbert & Gilbert, 43 Exchange Place, $5,000 preferred, 10,000 shs common.

Tilt Rock Products Corp. Queens, cement and gypsum. G. Hoerner, 220 W. 42st, Manhattan, $10,000.

Super Metals Corp., Wilmington ores, minerals. Corp. Trust Co. of Amer., Wilmington, $250,000.

Mornanite Laboratories, New York. Munn, Anderson & Munn, 24 W. 40st., New York, $50,000.

Improved Products Co., New York, minerals, metals. U. S. Corp. Co., Dover. 120,000 shs common.

G. N. Hoffman Co., New York, paints, Krause & Reiker, 32 Broadway, $50,000.

Masland Mfg. Corp., Philadelphia, leather substitutes. Corp. Guarantee and Trust Co., Wilmington, $50,000.

A. & W. Trading Co., Newark, metals & alloys. Braelow & Tepper, Newark, 100 shs common.

Heine's Chemical Co., New York, disinfectants. Taylor, Blanc, Capron & Marsh, 22 William st., $20,000.

Howard Smith Paper Mills, Ltd., Montreal, Que. W. H. Howard, L. H. Ballentyne, Chas. R. McKenzie, $10,000,000.

Manitoba Paper Co., Ltd., Winnipeg, Man. Lee R. Wilson, Thomas Broadhurst, Howard V. Hendrie, 35,000 shs no par value.

Fluid D'Or Co., Ltd., Winnipeg, Man., chemicals, $150,000. Abraham Kahane, Anthony J. Kostigan, Chas. L. Woolverton.

Corn Borer Exterminator Co., Windsor, Ont. Alibert St. Abuin, May A. Brady, Gladys M. Hepworth, $50,000.

Sulfaqua Chemical Corp., Ltd., Montreal, Que. Adrian K. Hugessen, Lawrence MacFarlane, Francis R. Scott, $150,000,600, 000 shs no par value.

Soshokee Laboratories, Newark, N. J., chemicals, Potter & Berry, Newark, $75,000.

Greenpoint Paint & Varnish Corp., S. L. Goodman, 1133 Broadway, New York, $50,000.

Chemical Holding Co., Dover, Del., chemists. Capital Trust Co. of Delaware, Dover, 500 shs. common.

Ault & Wiborg Co. of New York, inks. J. C. White, 15 Broad street, New York, 200 shs. common.

Do You Favor One Chemical Chamber of Commerce ?

Yes—242

No——33

To test the opinion of the general run of chemical executives, we sent a questionnaire, a copy of which appears below, to 1000 executives in all branches of the industry with the numerical result as tabulated above. We submit below a portion of the replies received both pro and con, together with a brief resume of the individual opinions expressed.

Robert Macdonald, Jr., General Abrasive Co.: Co-ordinate common interests: this would not necessarily displace separate trade-associations, where desired for more limited interests.

B. B. Carpenter, Va-Carolina Chemical Corp.: Exert influence than separate organizations. Economy in administration.

A. S. Benkert, Noil Chemical & Color Works.: The interest of the chemical industry should be in the hands of a central representative body of that industry.

M. C. Taylor, Mathieson Alkali Works: A Chemical Chamber of Commerce would promote greater mutual understanding and so result in substantial strengthening of their industrial position founded on such basic factors as more economical use of chemical raw materials and by-products, intelligent control of quantity production and unified action on matters of legislation affecting chemical industry.

K. M. Nahihian, Brewer & Co., Inc : That it will stabilize the industry and possibly be the means of preventing price slashing which does good to no one.

C. Bailre, U. S. Industrial Chemical Co.: Should make for more intelligent cost accounting, therefore selling prices warranted by knowledge of all facts, stabilized profit.

Charles R Oberfell, John H. Heald & Co., Inc.: All branches of the leather industry, with which I am connected, consolidated into one trade association, The Tanners' Council, during the war with obvious advantages. This organization continues to function satisfactorily.

E. E. Free: It might help to cure the present senseless fights inside the industry.

N. L. Crossley, Calco Chemical Co.: Seems to me essential for future progress of the chemical industry. United effort will accomplish results.

William H. Rose, Interstate Chemical Co.: My reasons will represent collectively the potential power of the industry.

R. T. Shebo, Chief Chemist, Standard Oil Co. of N. J.: Educate the politicians, democrats, the public especially.

Louis E. Goessmann, Innis Speiden & Co.: "In union there is strength." All successful business seems pointed in this direction.

Charles L. Huisking, Chas. L. Huisking & Co., Inc.: That the chemical industry has grown to such proportions that such an organization now seems advisable and it can be helpful in the further development of this industry.

H. B Shattuck, Abbot Laboratories: That a Chamber of Commerce made up of leaders of the different branches of the chemical industry, all have a community of interests can exert a greater influence for the good of the industry as a whole, than several independent organizations.

H. D. Armitage, Emery Industries, Inc.: It will be a good place to air your ideas; get ideas and exchange ideas.

F. G. Zinsser, Zinsser & Co., Inc.: There is at present a great deal of duplication by the different associations. If this C. of C. is designed to consolidate these various activities, with branches for distinct types of chemicals, I am very heartily in favor such a move.

W. H. Chamberlain, Chamberlain-Haber Chemical Co.: It could smooth out many present difficulties in the chemical field.

Charles Hardy, Charles Hardy, Inc.: It will help toward cooperation which has replaced competition in a number of other industries.

Wm. E. Brown, C. F. Simonins Sons, Inc.: In unity there is strength and any business of the size of the chemical industry, should have better acquaintance.

Max Alport, Wolff-Alport Chemical Co.: It is necessary in order to keep up with the unifications in other industries.

Frank Talbot, U. S. Tariff Commission: My experiences in working with the organizations in Berlin representing the whole German chemical industry, has convinced me that a Chemical Chamber of Commerce in the United States will give the chemical industry of this country unity, coherence and strength.

J. Wrench, Industrial Chemical Sales Co., Inc.: The Chemical Industry is peculiar to the extent that it is composed of sections that are very similar to water-tight compartments in a ship, which function distinct from each other; nevertheless, there are obvious advantages to be gained from an organization that would cover and embrace all the activities of the industry.

Herbert T. Sidebottom, The L. Martin Co.: "United We Stand, Divided We Fall."

H. T. West, H. T. West Co.: Such an organization should be most beneficial to American producers of chemicals. Whether it should include jobbers or manufacturers' agents such as ourselves would be a question.

G. C. Bailey, Roessler & Hasslacher Chemical Co.: U. S. chemical industry will be facing a foreign cartel which is becoming nearly a world wide monopoly.

John A. Chew, The Warner Chemical Co.: The industry certainly needs strength to meet the many problems that are arising.

Wm. M. Whitten, Jr., E. I. du Pont de

Our Editorial "A United Front" advocates a plan which many leaders in many different branches of the chemical industry believe is constructive.

This proposal has a special timeliness now when such problems as foreign loans, adverse propaganda regarding health hazards, the threat of big foreign chemical consolidations and the almost certain revision of the tariff next winter are all imminent problems common to practically every branch of the industry.

The consolidation of trade organizations, originally suggested in this editorial, has won the support not only of leading chemical industrialists, but also from other members of the chemical trade press.

But we want to know what a broad cross section of truly representative men in the industry feel about this, and with the distinct understanding that you are expressing only your personal opinion—that is, committing neither your company nor any association to which you may belong—will you register your views below.

1—Do you favor a Chemical Chamber of Commerce ?

Yes..... **No**.....

My reasons are:

Nemours & Co.: There seems to be need for an organization able to speak with authority and to oppose effectively unfair competition practices, especially foreign competitive methods including abuse of patent office privileges.

Philip S. Tilden, P. S. Tilden: Furthering the best interests of the industry.

H. P. Trevithick: A large closely co-operating organization has very much more powerful influence than small groups.

Fred C. Zeisberg, E. I duPont de Nemours & Co.: Yes, but I do not think this can supplant all other trade associations of the chemical and metallurgical industry. Such a Chemical Chamber of Commerce would provide an organization internal to the industry, where differences of opinion could be reconciled before making them public.

John B. Whitney, Du Pont de Nemours & Co.: Best stated in CHEMICAL MARKETS, June 1928.

F. A. McDermott, Eastern Alcohol Corp.: My reasons are as given in your editorial—could not such a Chemical Chamber of Commerce be made representative from existing trade associations.

Phillips Rogers, Rogers & McClellan: Concerted action by all allied industries must necessarily produce results of benefit to each.

R. L. Sesseons, York Metal & Alloys Co.: Pretty much as expressed in "A United Front."

John B. Lewis, John D. Lewis Co.: Co-operation will be of great benefit to the industry.

Charles Loring, North American Dye Corp.: Based on the assumption that the many and varied associations allied with the drug and chemical industry could be brought to work under one great association, then its efforts would be unquestionally more effective.

William A. Stabler, Ultra Chemical Works: The distinct progress which the European has shown since closer contacts have been established.

C. W. Squier, Harrison Mfg. Co.: It might give the chemical business power and knowledge it does not now have. Do not carry the project to a monopoly or to crush some American plant out of business, but constructive and helpful to the whole American chemical business.

George E. Walker, North Hudson Chemical Co.: Will create better understanding of common objectives.

A. I. Appelbaum International Products Corp.: There are so many associations and so many groupings that one more may be just one more.

Woodward Allen, Solvay Sales Corp.: There are so many chemical associations at present that I think another would be a burden. Why not combine present organizatons into a Chemical Chamber of Commerce and allow them to function as subdivisions to carry on their technical work.

E. M. Jones, Parker Rust Proof Co.: Unify our efforts.

L. B. Kier, Dextro Products, Inc.: The centralization of data, information of general interest, and a unified organization should go a long way in enabling the branches of the chemical industries to function for their mutual advantages.

George Barsky, American Cyanamid Co.: Such an organization would help the development, the feeling of an economic and industrial emity, at present somewhat lacking in chemical industry.

William W. Fuchs, Mallinchrodt Chemical Works: To stimulate co-operation among American chemical industries and also to assure united effort to be used to give fair protection to American chemical industry.

Cyrus H Williston, Atlas Powder Co.: To unite the chemical trades and processes under one directing body.

Geo. D. Feidt, Geo. D. Feidt & Co.: Can see no harm in such an organization; if run properly, great benefit, so why not have it ?

C. Hazard, Hazard Advertising Corp.: Such a body well organized and representative of the industry as a whole could accomplish much. It would serve as a medium for bringing out and into the open subjects which could be claryfied, which might otherwise be permitted to develop to a point where they would prove unpleasant and unprofitable.

W. Keitel, R. & N. Platinum Works, Inc.: Successful operation of the Chamber of Commerce in other lines seems to make a Chamber of Commerce for the chemical trade desirable.

H. G. MacKelcan, Innis Speiden & Co., Inc.: It would make for greater harmony and a closer working relationship.

A. Willard Joyce, Chemical Foundation, Inc.: It is important I believe that members of the chemical industry co-operate on all questions that have a general interest to the industry.

S. P Burke, Combustion Utilities Corp.: My answer cannot properly be made before I know more fully the activities, scope and method of the proposed organization. I say "Yes" tentatively because co-ordination and correlation are certainly needed in the industry.

Oakley M. Bishop, Du Pont de Nemours Co.: I believe that such a body properly organized should prove a strong factor in stabilizing and furthering the chemical industry of the U. S

W H. Thomas, Victor & Bloede Co.: Foreign consolidations offer such opportunities for monopoly and price fixing as to require intelligent supervision and regulation by parties directly interested. A combined protection can be assured by an active Chemical Chamber of Commerce.

H. R. Power, The Carbon & Chemical Co.: For standardization work, for uniformity of product, for higher prices abroad and lower prices at home.

G. J. Easton, The Carborundum Co.: Present chemical organizations are more scientific than economic except in narrow fields. Co-ordination of effort in the other line is essential.

A. T. Hilter, A. W. Inter Co.: Avoid duplicity of effort, saving expense and time; better centralization.

E. C. McNult, Chemical Sales Corp.: We believe that such an organization would do away with a great deal of duplication of effort and would present a united front by the chemical industry.

G. D. Muggleton, Niagara Smelting Corp.: Such an organization definitely has possibilities. Also the better understanding and broadened viewpoint resulting from united effort and wider acquaintance is in itself a worth while objective.

H. W. Chamberlain, Kauffman Lattimer Co.: To obtain true facts concerning conditions; Protection of chemical industries; Better understanding among industries of the U. S. A.

E. H. Middlebrooks, Middlebrooks Bros.: Combined efforts are more effective; it should prove a stimulus to the industry.

W. M. Bralton, Eagle-Picher Lead Co.: That it would be a great benefit to common interests and promote better understanding.

W S. McNab, Quaker City Chemical Co.: For the protection of the industry and an organized front against harmful legislation. Organization of industry through Chambers of Commerce or consolidation of the industries themselves is the only protection for future growth.

John L. Cust, Beaver Chemical Corp.: To present a united front; for the spread of helpful educational information pertaining to the industry.

G. J. Fink, National Aluminate Corp.: The opportunities for betterment of the chemical industry through such co-operation are numerous.

E. D Norris, Seydel Chemical Co.: A powerful central organization would be able to exert more pressure than the present system of multiple bodies—especially in the protection of the tariff wall.

Kent R. Fox, Monsanto Chemical Works: A parent organization which could absorb or eliminate or mother other trade organizations; a greater service to a larger field; more economically.

L. C. Bird, Phipps & Bird, Inc.: It would provide for a better understanding on the part of all engaged in the manufacture, sale and utilization of chemicals. It would also prevent duplication of effort and would provide a united front, capable of advancing toward a very definite object.

(*Continued on page 88*)

Trade Associations *and Industrial Progress*[*]

By Hugh P. Baker
Trade Association Dept., U. S. Chamber of Commerce

Calling for a more whole hearted co-operation by industries with trade associations, Dr. Baker cites numerous significant instances of benefits which have been derived from the realization that a well organized trade body will accomplish much.

THAT trade associations have come to be a permanent and an increasingly important factor in the business life of this country is evidenced by the fact that there is scarcely an industry of any size to-day that does not have its trade association at work upon one or more of the difficult and often complex problems with which it is faced. It is evidenced further by the fact that there is a national organization of trade association executives with a membership of nearly three hundred men, and finally that the Chamber of Commerce of the United States has recently brought into existence a Trade Association Department which will give all of its time to the upbuilding and extension of trade associations in the industries of the country.

It should be helpful in emphasizing the fact that the trade association has entered business, to put before you a short, clear definition of a trade association. A workable definition of a trade association may be helpful also in limiting and focusing this discussion. Although the American Trade Association Executives, the national organization of trade association secretaries, and the United States Department of Commerce have both set up definitions of the trade association, yet for the purpose of brevity and clearness, we are proposing a definition in short form. This is that "A trade association is an organization of business men in and serving industry for mutually helpful service and for better business."

The new competition which is being discussed so much to-day—that is competition between industries rather than between corporations or individual within an industry—is demanding constant readjustment and changes in habits of doing business with the result that groups of business men, whether organized in associations or not, are turning more and more to help from the outside. This demand for outstanding leadership in organized effort has both advantages and disadvantages. If this help from the outside can be secured without bringing in its wake more regulation and control by government, and if it will result in more satisfactory business, very distinct advantages will accrue from the effort.

Is it reasonable to ask what this group of aggressive, thinking business men is doing to develop leadership through the association which you have set up to bring better business to your industry? Can your association enter your business as it should if you as individual manufacturers are not giving to it the careful thought and aggressive effort which you are giving to your own individual business?

Trade associations have generally been organized in this country as result of a common feeling within a group of business men that helpful results can and must be secured through group effort. Too often after the association has been organized and a secretary or a manager secured, the individual member goes about his business feeling that somehow or other the association will do the work which it has been set up to do without his attention and help. There must be a new vision of the trade association as an industry-wide corporation with the individual plants making up the membership of the association functioning as units in the corporation. If you will consider your trade association as an industry-wide corporation and give the same thought to returns from the investment which you have in the industry corporation that you are giving to returns from your own business, then the association will mean better business for the entire industry.

Where is the Trade Association in Industry

Business men have been coming together for years in associations for mutually helpful service and for better business. While very worth while results have been secured from this coming together, yet for many years there has been doubt in the minds of some business men and in the mind of the public generally as to the legality of activities of trade associations. There

*Address before Fourth Annual Convention, National Fertilizer Association, Old Point Comfort, Va., June 13, 1928.

seems to be the impression in the minds of the public that after all Adam Smith, the economist, was right when he said in the year 1776, "People of the same trade hardly meet even for merriment or diversion but that the conversation ends in a conspiracy against the public or in some contrivance to raise prices."

With these generally unfounded doubts as to just what groups of business men may do legally by group effort in a trade association, the surprising thing after all—and yet not surprising when we appreciate the fundamental honesty and goodwill of American business men—has been that through the years the work of trade associations has been so constructive, so helpful to both members of the associatiom and the public and with all so little of the illegal and the bad. With hundreds of trade associations in existence through the years, and now literally thousands, it is no more then reasonable to assume that some of these trade associations will at times be just plain bad and therefore end in punishment by the courts. After all, association effort is much like individual effort and sound character or the lack of it is found in the trade association just as in the individual.

Planting the Seed

As men have come together or been forced together through the years for social or political or business group effort, there is much question as to whether they have been drawn together through the urge of pressure to perpetuate the good or to eliminate the evil. It would seem from history that group effort has come about among people rather more to protect themselves from the evil than to perpetuate the good.

Some of the facts or reasons why men have come together in trade associations in this country might well be explained by describing definite efforts on the part of groups of business men to form associations. For eight years it was my privilege to serve as Manager of the American Paper and Pulp Association, a national federated organization covering the entire pulp and paper industry. This association is made up of sixteen affiliated associations covering all of the different grades of pulp and paper and extending somewhat into allied fields with a membership of mills and coverting plants extending from Maine to California.

In February, 1927, this association celebrated its 50th anniversary and in preparing a brief statement on fifty years of association work in the paper industry, the minutes of the early meetings of the association were gone over carefully. The call for the first meeting, which was held in Saratoga Springs in 1878, was sent out early in that year by a group of manufacturers operating paper mills in and about Springfield, Massachusetts. This call outlined conditions in the industry which made it seem advisable to hold a general meeting of the industry for the purpose of seeing what might be done to meet conditions as they existed at that time.

A statement of conditions in the paper industry in 1877 and 1878 and the problems which seemed to confront the industry as a whole at that time sounds rather familiar as it is recalled to-day. The call sent out indicated that there was serious over-production in the industry, that foreign competition was destructive, and that there was price cutting and unfair encroachment upon sales territory. The anti-trust laws were not then on the Federal Statute Books and the minutes of the first meeting are filled not only with a discussion of conditions referred to but of methods which it seemed at that time might be used to meet these unsatisfactory conditions; that is, price fixing, division of territory, restriction of production, etc.

With such a discussion of conditions and remedies, The American Paper and Pulp Association came into existence and has had continuous existence since that time and with all of the ups and downs of the years it is to-day a strong, well-organized association functioning in a helpful way for the industry.

In discussing the question as to where the trade association is to-day and what may be ahead of it, it may be helpful to outline briefly two distinct types of associations as we see them functioning in different industries to-day. The first is the association which is not recognized by the industry as an industry corporation. This association is too often not soundly financed and its activities are confined to one or more direct forms of service, the holding of an annual convention, a banquet, etc. Many of these associations are drifting to-day and their members are often discontented and asking why the association is not more worth while; why it is not helping the industry to meet some of the outstanding problems such as over-production, elimination of trade abuses and effective trade extension.

Comparing the Types

The other type of association, usually resulting from some years of experience in association work in an industry, is considered by its membership to be an industry corporation. It is adequately financed and is led by a trained and experienced manager. This type of association through aggressive support of its membership is not only giving direct service but is helping its membership to meet the larger economic problems which are pressing in from the outside with such force. In other words, this type of an association is the kind of an organization which American business has the right to expect from unified effort in the pooling of the intelligence and energy of the entire industry for mutually helpful service and for better business. This second type of association is dealing with the policies of the industry as well as giving direct service.

In many instances these associations which came into existence before 1900 or even 1910 were somewhat social in character or were formed to do one particular thing for the industry by which they were

organized. Again referring to the American Paper and Pulp Association—for nearly twenty year after its formation it did not have a paid secretary and its purpose was largely to bring the pulp and paper manufacturers from different parts of the country together once a year for an annual meeting and dinner. At the annual meetings problems of importance to the industry were discussed, such as the raw material supply, foreign competition, tariff and other legislation, technical advancements, distribution and merchandising, etc. It is rather safe to assume, however, that these manufacturers would not have come together year after year merely to attend an annual meeting at which legislative, technical and other questions were discussed. The strong urge of good fellowship, and the opportunity to discuss business as man to man were doubtless the prime reasons for the getting together.

Intangible Results

The analysis of the results of fifty years of trade association work in the paper industry referred to above indicated strongly that the most important results of fifty years of organized effort were what might be called the intangible results of trade association work, that is, acquaintanceship, good fellowship and confidence. After all, these intangibles are fundamental in the work of any trade association. There must be confidence between the members of an association, by the members in the manager, before tangible results can be secured. It is almost out of the question to get the results desired in such important association services as statistics, cost accounting, credit bureau, trade promotion, elimination of trade abuses and similar activities unless there is reasonable confidence as between the members and confidence by the members in the association and its staff.

To an amazing extent the suspicion and even hatred which existed among business men in the old days have been replaced by acquaintanceship and good fellowship and confidence. If the trade associations of the country have accomplished nothing more than to bring business men together around the conference table so often that the contact has resulted in sound good fellowship and confidence, then the associations have been worth while. Of course, we have a long way to go yet in developing the kind of acquaintanceship and confidence that would insure honest dealing among men. Yet we must recognize the fact that great progress has been made.

Another very practical result of trade association work has been the development of what might be called group or industry consciousness. Men have come very definitely to feel that, through organized effort in the association, they belong to an industry, that they are responsible for its welfare and that they cannot continue to act entirely on a selfish basis of what is for the good of the individual only.

A question often asked is whether business as represented in the manufacturing, distributing or retailing fields is functioning on the basis of a carefully prepared plan. Such analyses as have been made of certain of the industries, particularly as to distribution, would seem to indicate that as a rule industry is going forward in this country without a definite plan. Progress is being made, however, toward a constructive program in industry and there can be no doubt but that this progress has come largely as the result of trade association work.

Wasteful and harmful trade abuses making for unfair competition, competition from foreign-made goods and from other commodities, are all creating situations in industry that should make it perfectly obvious that the thinking men making up the great industries of this country should and must come together in a trade association not only to exercise some direction as to future growth but to build the associations into effective agencies for the giving of mutually helpful service and the accomplishment of better business. Much has been said and is being said as to the keeping of government out of business. Whether the government increases its regulatory control of business in this country or not, most certainly depends upon whether busines men are going to be able to get together in a helpful way to do for themselves what they need to have done through placing business on a better plane and by the bringing about of conditions that will make it unnecessary to continue to do business without profit.

The Fundamental Point

In considering the future of any trade association, it is fundamental to consider whether the organization is covering the field of the industry as a whole in an effective way. Is the association too narrow in its interest ? Has it the contacts with allied industries which it should have to progress on a stable basis ? The tendency in trade association development seems to be in the direction of the widening of activities even to the point of bringing in closely allied groups. This is being accomplished in some industries by the federation of associations serving an industry or by the building up in a centralized organization of sections or groups representing the various closely related and allied interests. Is your association inclusive enough ? Might it not with reason include all of the elements of the larger industry ? It should be working closely with all the other associations in the larger industry on a mutually helpful basis for the accomplishment of stability and profit.

The Chamber of Commerce of the United States is a national federated organization made up of a large number of affiliated organizations, both chambers of commerce and trade associations. Trade associations have been in the membership of the Chamber since it was organized some fifteen years ago. Because the Chamber is a nation-wide organization of business men, representing business on a sound basis at Washington, there has been a steady increase in the number of trade associations in the membership of the Cham-

ber until to-day there are nearly four hundred trade associations in the National Chamber's organization membership.

While the Chamber was developed in the beginning largely with the idea of building up and serving chambers of commerce in the country, it has always had in mind helpful service to trade associations. The nine service departments of the Chamber have been growing stronger each year because of the service which they have been able to render trade associations.

U. S. Chamber of Commerce Helps

The increasing strength of trade associations in industry through the country and the way in which they have been turning in greater numbers to the National Chamber for assistance, caused the Chamber during the past winter to establish the Trade Association Department. This Department has been organized with three principal objectives in view. First, through educational and promotional effort to evaluate or sell the trade association to (a) members of trade associations throughout the country, (b) to the public and (c) to the government. Second, to interpret and extend the work of the service departments of the Chamber to trade associations. Third, to assist in organizing unorganized groups in industry; that is, to help in bringing about effective trade association in industries not now organized.

As a part of the promotional and educational work of the new Department, there will be a certain amount of direct service which the Department will extend to trade associations. Some of these lines of direct service are as follows:

First, the improvement of trade relations in industry; that is, assisting industry in helping itself to eliminate wasteful or harmful trade abuses which are making for unfair competition. When an industry is unable to eliminate these abuses itself, the Chamber is ready to serve as a channel through which it may reach the Federal Trade Commission for a trade practice conference and agreement under the Commission.

Second, serving as a clearing house for information as to the technique of trade association work.

When American Business Speaks For Itself

If one could at a glance look into the offices of the thousand odd trade associations in the country, it would be possible to visualize in a way the trade association movement in industry and it would then be somewhat easier to forecast what the future of the trade association may be in the economic and industrial development of the United States. How, except through organized effort in the trade association, can such fundamental economic and business problems as permanency of supplies of raw material, overproduction, foreign competition, distribution and merchandising, elimination of trade abuses and other equally vital problems be met by industry on an effective basis. How, except through the trade association, can American business speak for itself.

Science and Sales

Foreign patent literatures bares evidence of the I. G.'s active interest in the hydrogenation of petroleum products. A significant line of work is being opened up in which low boiling oils are heated under pressure in the presence of hydrogen or various hydrogen containing gases in the presence of catalysts. For example, brown coal tar oil in aluminum lined apparatus under 200 atmospheric pressure at 450 degrees in the presence of active carbon and hydrogen produces, when passed over a cobalt catalyst, a product containing 90% benzene.

Distinct economies are claimed for the new Cornillat process for the manufacture of zinc oxide, namely a simple and economic equipment, higher yields, lower cost of upkeep, and a superior finished product. The process (French patent 632235) does away with the use of retorts and allows shut downs without deterioration of the furnaces. Production from each furnace is claimed to be two tons per day.

Various chlorine preparations under trade names are being marketed in Germany for water purification. Kaporit, calcium hypochlorite (60 to 75% active chlorine); Ergichlor sodium chlorate, chloramine in tablet form; and Acquapurol chlorine, water in ampules, have all been tested with satisfactory results.

Calcium cyanide has been suggested by W. Straib for dusting winter wheat seed as protection against smut. Calcium superphosphate has also been tested for the same purpose, but without such satisfactory results.

Paints made from china wood oil are more resistant when exposed to the action of chlorine than linseed oil paints, according to Toch in a recent article in the "Textile Colorist."

Tin phosphotungstate is claimed as a superior weighting material for silk, especially as regards the properties which effect dyeing and printing. (U. S. patent 1666501).

Butanol and castor oil, half and half, is used (U. S. patent 1666871) as a solution for automobile hydraulic brakes.

A new use for wood tar is suggested in British patent 259616 as a binder for activated carbon cakes.

Responsibility for Accidents in Transit

By Emory H. Niles
of Niles, Barton, Morrow & Yost of Baltimore

THE question of responsibility for accidents in transit is one in which manufacturers, shippers and users of chemicals and chemical products are deeply concerned. By reason of the nature of chemicals, they, more than other substances are likely to be damaged in transit and to cause damage to other goods. It is always possible, of course, for a shipper of chemicals to hire an ox-cart, place his chemicals upon the cart without any other goods, and start them off upon a journey; but as modern business is done, the overwhelming proportion of such goods is shipped by common carrier, together with other goods. This article will, therefore, deal only with the liabilities arising from damage caused by shipments of chemicals and similar goods by common carrier, either by rail or water.

Every shipper of chemicals has at one time or another had occasion to be baffled by court decisions in suits brought about by accidents or damage of goods in transit. Some of the more important cases which are today used as precedents are cited and analyzed by the writer, an authority on the intricacies of transportation law.

Legally the question is the subdivision "dangerous goods" under the general heading "carriage of goods". Without implying that chemicals are all dangerous, it is nevertheless true that any special rights or liabilities arising from their carriage are those caused by dangerous qualities of some kind, as inflammability, explosibility, corrosiveness or poison. And it must be emphasized that the limits of space compel a very rough and incomplete statement of the law.

Ordinarily the question of liability for accidents in transit is one of damage *to* the goods carried, but in the case of chemicals the question which usually arises is as to damage *by* the goods carried. As far as damage *to* the goods is concerned, there is no difference between chemicals and any other goods.

We turn without further ado to the law relating to damage and accidents caused *by* goods carried while in transit.

Underlying all rights is the general common law requiring a common carrier to accept for transportation any goods offered to it except goods of an unusual or dangerous character, which it has the right to decline on the ground that it has not suitable facilities for carriage, and in regard to which it can specify that it will not be responsible for damage or loss, but that the carriage must be at the shipper's risk. The carrier has no right to refuse to carry ordinary goods, and it has no right either to inquire as to the contents of packages offered to it, or to open packages in order to verify the stated contents unless circumstances cause a reasonable suspicion of them. When the carrier has accepted the packages, whether he knows their contents or not, it is liable for all loss or damage which may come to them except through Act of God, the Public enemy, or defects in the goods themselves. And not only is the carrier liable for loss of any particular goods; it is liable for damage done by one consignment to another, e. g., oil leaking from barrels onto sugar in sacks.

As a result of this high degree of responsibility placed on the carrier, the shipper has corresponding duties.

Chief of these is the duty of disclosure. The primary duty of every shipper of goods likely to cause damage of any kind is to describe them accurately and fully, so that all persons dealing with them may have fair notice that they are "inflammable," "poisonous," "explosive," or in some other way likely to cause injury. There are several different ways in which this duty can be performed. In the first place, if goods are a well known commodity in packages, the name of the commodity must be stated clearly on the outside of the packages, e.g., "chloride of lime," "dynamite," "nitric acid," gasoline." All of these substances are well known commercially and if a carrier has accepted them, it is its duty to know how to handle them.

It makes no difference how dangerous an article may be, since the carrier can refuse dangerous articles which he is not equipped to carry. But if the name indicates the nature of the goods, the shipper need only tell the name. As a quaint example puts it, if I ship a tiger, my only duty is to tell the carrier that the animal is a tiger and the carrier is presumed to know what kind of an animal a tiger is. But if I ship a horse which I know to be vicious, it is my duty to warn the carrier of the vicious character of the

particular horse, since the mere description "horse" does not give the carrier any warning as to what precautions he should take.

A special case arises when goods are shipped in bulk. If the carrier can see the goods and can be reasonable expected to know as much by looking at them as by anything the shipper might tell him, then there is no need for the shipper to disclose anything with regard to the goods at all—for the carrier has as full opportunity to know their nature and condition as the shipper. A good example of such goods is bulk sulfur.

Defective Packing Ruling

The second duty of the shipper is to pack the goods properly. The carrier has a right to rely on the shipper to put the goods into such containers that they will withstand all ordinary shocks and incidents of transportation. And if by reason of defective packing not visible from the outside, other goods are damaged or the property of the carrier is injured, the shipper is liable therefor. This liability applies to containers of liquids which are too fragile, containers of corrosives not sufficiently resistant, containers of damp or moist products which do not keep the moisture within the package, or defective containers for compressed gases. In all such cases the shipper is liable for any damage done.

In some cases defective package or the doubtful sufficiency of the containers is obvious, and in such cases, where the carrier has ample notice of the conditions, it is liable if it accepts packages that are insufficent. For instance, refined sugar in sacks may be damaged by rain or other moisture; but if the carrier accepts such goods in sacks, it is his duty to see that they are kept dry. But if acid is shipped in glass containers which are too thin, or if ampoules of corrosive are not packed so as to prevent breakage, the shipper is liable. And in such cases the benefit of the doubt is against the shipper.

The shipper is also liable for any damage done to his own goods, other goods, or the property of the carrier through "inherent vice," putrefaction, fermentation, heating, contamination, or any other of the many ways in which a commodity either through its very nature, through unfavorable weather conditions, or through unforeseen circumstances can damage another. For all of these the shipper is liable to both the carrier and the owners of other goods.

Consignee Blameless

The consignee has no duty in connection with goods shipped or liability for accidents caused by them before the goods are received by him. In the case of Boston & Albany Railroad vs. Shanly, mentioned below, goods of a particularly dangerous character were manufactured for and shipped on the consignee's order without warning to the carrier as to their nature. It was held that the consignee had no duty to warn or otherwise take precautions as to them, and was not liable to any one for an explosion. The duty to pack them properly and give due warning rested solely on the shipped.

Persons not either shipper, carrier or consignee, have the same duty not to interfere with goods in the possession of a carrier as with other goods which do not belong to them. They have rights, however, when dangerous goods explode, burn, or in some other way cause them injury, through a breach of duty of those involved in the carriage. Thus the owner of premises adjacent to those of a carrier can recover from a shipper for damage to those premises caused by an explosion of goods in the possession of the carrier when the shipper has given no notice to the carrier of their dangerous qualities.

Liabilities

We have so far considered the question of accidents in transit chiefly from the point of view of duties. It may be well to summarize as shortly as possible the liabilities to various persons arising out of such accidents.

The shipper who is responsible for an accident is liable

(a) To the carrier for damage caused to the equipment of the carrier.

(b) To owners of other goods carried for damage to them. This liability can be enforced by the carrier itself by a suit in its own name, since the carrier must ultimately pay the other shippers.

(c) To persons injured, whether they are in the employ of the carrier or not, provided such persons have not been guilty of contributory negligence.

The carrier is liable for the damage caused by an accident due to its fault.

(a) To the owners of goods in process of carriage damaged by the accident.

(b) To persons injured as a result of such accident.

(c) To owners of property not carried, but damaged in consequence of the accident.

Third parties are liable to the carrier for damage caused by their positive negligence whereby property of the carrier or in the custody of the carrier is injured. The carrier can in the same suit recover damages for destruction of its own property as well as the value of property belonging to other shipper.

The consignee is not liable to any one until he has received the goods.

A manufacturer of chemicals or other goods likely to cause damage may well be caused uneasiness by this rather formidable statement of his liabilities. But fortunately there is a practical guide to what to do in the shape of the Interstate Commerce Commission's Regulations for the Transportation of Dangerous Articles. These regulations, drawn up some years ago are regularly revised and kept up to date. They contain (1) Lists of articles classed as

dangerous and for which special precautions must be taken. (2) Specifications for labels which must be used in the transportation of various articles, and (3) specifications for containers for the packing of such articles. These regulations are not vague rules, but specific instructions as to whether to use a red label; a yellow label, or no label; a metal container, a non-corrosive container or a wooden container for any particular commodity; and they thus constitute a practical and authoritative guide for shippers. For commodities not mentioned in the Regulations, the manufacturer and shipper must realize that the burden is on him to disclose their nature and pack them safely.

New and Unknown Articles

A difficult case arises when damage is done by a new or unknown article or by some article which does damage in an unexpected way. In such a case several questions immediately arise. First of these is "How much did the shipper tell the carrier about the goods ?" In the case of a new or unknown article the mere statement of the name is not telling anything, for the name does not inform the employees of the carrier—truckmen, freight clerks, and warehouse hands—as to whether the goods are dangerous or not, or what precautions have to be taken. With a new product it is the duty of the shipper to give ample warning of the possibilities of accident or damage, and the shipper himself must assume the burden of giving full warning and packing the goods properly so that they will not cause damage to other goods.

A more difficult case arises when goods cause damage in an unexpected way. Suppose that a case of a substance known to be inflammable, but not known to be subject to explosion on impact, should, while being unloaded from a freight car, strike against a stanchion or be dropped onto a platform and explode. The shipper had named it correctly and packed it properly as far as he knew, and had labelled it "inflammable" but, not knowing that it was explosive, had failed to warn against that danger. In such a case the law is not altogether settled, but the strongest authority seems to be that if the shipper tells the carrier all he knows or should know, then he is not liable for the damage. The law does not require a shipper or a manufacturer to be omniscient, but it does require both to have all the knowledge which reasonable diligence and the facilities open to them would give. Again the shipper should be careful, in any doubtful case to make the fullest possible disclosure and give the most comprehensive warnings.

Another interesting situation arises when a particular lot of goods, harmless in itself, is improperly manufactured, so that the particular shipment is actually dangerous. In such cases the usual cause for the defect is negligence on the part of the manufacturer or shipper. When such negligence can be proved there is no doubt about the liability of the shipper to the carrier for any damage done to the carrier and other goods in the carrier's possession. But sometimes the damage is caused by a latent defect which could not have been guarded against by reasonable precautions on the part of the manufacturer or shipper. In such cases we are thrown back to the situation arising with goods which cause damage in an unexpected way. In other words, the best authority is that if the shipper has used reasonable diligence in making, packing and marking the goods, and has told the carrier all he knows and reasonably ought to know, then the shipper has been guilty of no fault or negligence and is not liable. Again the motto for the shipper is: Be careful and don't take chances in order to save freight.

Concrete Cases

The above statement of principles can be illustrated by several concrete cases which have been decided by the courts, cases which bring out the principles more sharply than the mere dry enumeration of legal propositions.

The first case which illustrates the general rules involved is the Fels-Naphtha case, (170 Fed. 275), decided in 1908. The Fels-Naphtha Soap Company shipped by a steamer of the International Mercantile Marine Company one thousand cases of Fels-Naphtha soap in boxes containing about 75 pounds each. The soap contained from six to nine per cent. of chemically free naphtha which would slowly evaporate into the air. The soap was placed in a closed compartment of the ship, and during the voyage, which was made in summer, the temperature of the hold was from 60 to 80°F. On reaching Liverpool the hatch was opened, and after stevedores had gone into the hold a violent explosion occurred, killing and injuring a number of men, and doing a large amount of damage to the ship. The Soap Company had at various times shipped other consignments of the same soap on the steamers of this line, and the name of the soap was on the outside of all the packages containing it. The Soap Company had also notified the steamship company that the soap contained naphtha, and that there might be danger of explosion if it were placed in a confined space, and had arranged that shipments should be stowed in a place where there was a free circulation of air. The Court held that the Soap Company was not liable, and the steamship company was liable for the explosion, since the Soap Company had described the commodity properly and had given proper notice of the correct way in which to handle it. The Court also held that the danger of an explosive mixture being formed by air and naphtha vapor was a matter of common knowledge with which the carrier was chargeable as much as the shipper.

The leading case illustrating the non-liability of the carrier for the default of a shipper is the "Nitroglycerine case" 82 U. S. 524, decided in 1872. In 1866 a man appeared at the New York pier of Wells Fargo & Co., which at that time had an express service between New York and California, trans-shipping at

Panama. He presented to the clerk an ordinary wooden box about 2½ feet square weighing something over 300 pounds, and asked that it be accepted for shipment to California. No questions were asked as to its contents and no information was volunteered. The box was duly carried to California, but on arrival at San Francisco it was noticed that a liquid appearing to be olive oil was leaking from it. In accordance with the express company's usual practice, the box was taken to the express company's office and employees of the company proceeded to examine the contents. While attempting to open it with a mallet and chisel, the box exploded, killing everyone present and demolishing several buildings. The owner of the neighboring buildings sued the express company for damages, claiming that the express company had not used proper precautions in finding out the contents of the box and in handling it properly. In this case, of course, there is no doubt but that the shipper was grossly at fault, but he could not be found and consequently was not sued. The Court held that the express company was not liable, since it had no right to demand information as to the contents of any package presented to it unless there were some circumstances which aroused its suspicion. Neither had the company any right to open packages to find out what was in them. But in this case when a leak was seen it was quite proper for the company to open the package and attempt to remedy the defect. It should be noted that under the general carrier's liability the express company was liable for the value of other goods destroyed in the explosion belonging to other shippers. In other words, this accident was not caused by "Act of God or the public enemy" and therefore, although not in any way at fault, the company itself had to pay for other goods in its custody destroyed by this accident.

An English Court Ruling

The case of Brass vs Maitland, decided by the English courts in 1856, (6 El. & Bl. 485) is the leading case in England on damage by dangerous goods. In that case a shipper shipped chloride of lime in casks on board a ship and described the contents to the carrier as "bleaching powder." The casks leaked and other goods were damaged. The carrier sued the shipper for the damage, alleging that the shipper had failed to disclose the true nature of the goods or that they were of a dangerous character. The court had some difficulty with the case, but said that the shipper was bound to give the carrier information from which the carrier "might reasonably know" the dangerous qualities of the goods shipped, and concluded that the mere term "bleaching powder" did not constitute sufficient disclosure, and that the shipper was liable. The discussion centered around the question of whether the carrier ought to have known that "bleaching powder" was chloride of lime, and the court said that if the master knew or had the means of knowing and "reasonably might and could and ought to have known" that the "bleaching powder." consisted of chloride of lime, then there was no occasion for the shipper to give any express notice, however dangerous the goods might be. This phrase has been quoted many times in later decisions and is really the basis of the law. As stated above, the court held that the words "bleaching powder" did not give the carrier warning of the dangerous quality of the goods.

In 1910 one of the most interesting cases on this subject was decided by the English Courts, namely, Bamfield vs. Goole and Sheffield Transportation Co. ([1910] 2 K. B. 94). In that case a shipper delivered to a common carrier by water a quantity of ferro-silicon packed in casks, under the bill of lading description "general cargo." While on the ship the ferro-silicon gave out poisonous fumes and killed the captain. The widow of the captain sued the shipper for shipping dangerous goods without warning. Ferro-silicon was a new product, and neither the shipper nor the captain knew that it gave off poisonous fumes. The court had some difficulty with the case, but finally decided that the shipper was liable, on the ground that he had not disclosed what he knew, namely, that the goods were ferro-silicon. This decision is somewhat illogical, for it would have done no good to have told the cantain that the article was ferro-silicon since the captain did not know and had no means of finding out that ferro-silicon might give off poisonous gases. Nevertheless it illustrates the duty of the shipper of a new or little known article to tell everything that might be of importance, so that at any rate he cannot be charged with concealment.

Finally, a case which illustrates almost all of the rights and liabilities involved is that of the steamer Alum Chine (219 Fed. 827) which blew up in Baltimore harbor about 1913. In that case a manufacturer of explosives delivered several carloads of dynamite to the Pennsylvania Railroad to be loaded on board the steamship Alum Chine in Baltimore Harbor to be carried to Colon, for use in the construction of the Panama Canal. The Pennsylvania Railroad employed a well-known stevedoring company which had had long experience in loading dynamite to transfer this consignment from the railroad cars to the ship. The weather was very cold and during the transfer the dynamite froze and then partially thawed, which thawing caused some of the nitro-glycerine in the dynamite to exude and rendered it extremely dangerous and liable to explosion. Most of the dynamite had been safely loaded into the hold of the Alum Chine, and one of the stevedores was endeavoring to fit a box tightly into a layer when he very imprudently struck the box with a bale hook. A small explosion followed with the result that a panic occurred on board the steamer, all hands rushing to get away. Before all the men aboard could get clear of the steamer, a terrific explosion took place, destroying the steamer and killing everyone on board her as well as many of those who were attempting to get away on smaller

craft. A vessel under repair not far away which had nothing to do with these operations was also damaged and men aboard her were hurt. In a number of suits for damages and personal injury and death, which followed, the manufacturer of the dynamite, the railroad, the charterer of the Alum Chine, and the stevedoring company were made defendants. The court held in the first place that the real cause of the disaster was the blow by the stevedore upon a box of dynamite, resulting in a small explosion followed by the large explosion, and the court further held that this blow was a negligent act.

The manufacturer of the dynamite had made it properly, had packed it properly and disclosed its nature to every one concerned. Every one was presumed to know and actually did know, that dynamite was an explosive, and no one was under any misapprehension as to the kind of commodity that was being handled. The manufacturer was therefore not liable. In the next place, the railroad was relieved of the responsibility, since the handling and carriage of dynamite is perfectly proper when done with proper precautions. The railroad had marked all the cars in question properly and had given notice to every one as to their nature and had not connived in any misconduct on the part of any one. The charterer of the steamer was also held without fault, since in selecting the firm of stevedores which was actually doing the loading, it had chosen a firm with a long record of excellent work, and one which had had more experience in loading this sort of cargo than any other firm available. The fact that loading dynamite was dangerous was held not to make the charterer liable for any accident which might occur without his fault, since although the operation is dangerous, it is nevertheless a legitimate commercial operation in which persons should be liable only for actual fault. Finally, the court held that the stevedoring company, the negligent act of whose servant had caused the disaster was liable for all of the damage.

These cases are only a few of the hundreds of interesting cases that could be cited, but they serve to bring out the essential points of duty and liability in connection with accidents in transit, namely: The shipper must pack, mark and warn, and the carrier must take such precautions as are reasonable and proper for the character of the goods accepted.

In 1927, 24,650 flasks of mercury, valued at $2,189,495, were imported, compared with 28,614 flasks, valued at $1,971,458, in 1926. Of the 24,650 flasks imported in 1927, 13,663 flasks were derived from Spain, 9,089 flasks from Italy, 1,843 flasks from Mexico, 51 flasks from Netherlands and 4 flasks from Chile. In 1926, 14,117 flasks came from Spain, 11,768 flasks from Italy and 2,729 flasks from other countries.

On December 31, 1927 there were 5,736 flasks of mercury in bonded warehouse compared with 2,277 flasks at the end of 1926.

Who's Who In Chemical Industry

Kochs, August, president, Victor Chemical Works. Born: Germany, 13 Aug. 1871; mar., Adelaide Petersen, Chicago, Ill., 6 Nov. 1895; children, 2 sons, 1 dau.; educat., Royal Tech. & Coml. Schl., Cassell, 1888. Victor Chemical Works, pres. Memb., Chgo. Athletic Assn. (Chicago), Assn. Commerce, Ill. Mfg. Assn. Hobby: outdoor sports. Address: Victor Chemical Works, 1810 Fisher Bldg., Chicago, Ill.

Gillett, James Monroe, head special products division, Victor Chemical Works. Born: Fond du Lac, Wis., 9 Mar. 1893; mar., Alda Carpenter, Milwaukee, Wis., 4 Nov. 1922; children, 2; educat., Univ. Wis., B. S. 1915. Ch.E. 1922. Benj. Moore & Co., chem., 1915-17; Goodyear Tire & Rubber Co., 1919-22; Victor Chem. Wks., 1923 to date. Ord. Dept. U. S. Army 1917-19, 1st Lt. Memb., Amer. Chem. Soc., Chgo. Drug & Chem. Assn., Amer. Assn. Cereal Chem., Tau Beta Pi. Hobby: music. Address: Victor Chemical Works, 343 S. Dearborn St. Chicago, Ill.

Hayward, George M., secretary, Thompson Hayward Chemical Company. Born: Kansas City, Mo., 10 June 1891; mar., Ellen A. Jackson, 7 Oct. 1916; children, 1 son, 1 dau.; educat., Central High & Prep. Food & Drug Inspection—City Kansas City, Mo., 1912-15; Peet Bros. Mfg. Co., 1915-17; Thompson Hayward Chem. Co., 1917 to date. Memb., Chamb. Comm., Rockhill Tennis Club. Hobbies: tennis, travel, bridge. Address: Thompson Hayward Chemical Co., 2915 Southern Blvd., Kansas City, Mo.

Logue, Paul, chief chemist, Provident Chemical Works. Born: Hampshire, Tenn., 12 Aug. 1895; mar., Mary Wheeler Maury, 8 June 1921; children, 1 son; educat., Univ. Tenn., A. B. 1916. Federal Dyestuff & Chem. Corp., 1916-17; Atlantic Dyestuff Co., operating chem., 1918-21; Natl. Aniline & Chem. Co., chem. insp., 1922-23; Provident Chem. Wks., chief chem. 1924 to date. Mfr. munitions, 1916-18. Memb., Amer. Chem. Soc., Amer. Assn. Cereal Chem., Amer. Inst. Chem. Engrs. Hobby: religion. Address: Provident Chemical Works, 508 Planters Bldg., St. Louis, Mo.

Mailliard, John Ward, Jr., secretary, general manager, Mailliard & Schmiedell. Born: San Francisco, 25 Mar. 1891; mar., Kate Peterson, Belvedere, Calif., 20 Sept. 1913; educat., Taft Schl., Sheffield Scientific Schl., Yale Univ. 1912. Mailliard & Schmiedell 1910 to date. Pvt., 8th Obs. Bat. Field Artillery. Memb., San Francisco Chamb. Comm. (dir.), Ind. Assn. San. Francisco (dir.). Clubs: Pacific Union, Bohemian (San Fran.), Yale (N. Y.), St. Elmo (New Haven), San Francisco Commercial. Address: Mailliard & Schmiedell, 203 California St., San Francisco, Calif.

McCarty, George Weyman, Jr., vice president, Ashcraft-Wilkinson Company. Born: Atlanta, Ga., 27 June 1887; mar., Passie May Ottley, Atlanta, Ga., 9 July 1915; children, 2 sons; educat., Ga. Schl. Tech., B. S., mech. eng., 1908. D. P. Ashcraft Wilkinson Co.; Empire Cotton Oil Mills, pres. Ensign U. S. N. R. F., World War. Memb., Mason, Kappa Alpha Clubs.: Capital City, Piedmont Driving. Address: Ashcraft-Wilkinson Co., 601-08 Trust Co. of Ga. Bldg., Atlanta, Ga.

Rupp, Walter S., assistant treasurer, sales manager, Baugh Chemical Co. Born: Balt. Md., 9 July 1881; mar., Catherine Irva Kirby, Balt., 22 Feb. 1905; children, 1; educat., Balt. City Coll. Baugh Chem. Co., 22 yrs.; The Baugh & Sons Co., Balt., asst. treas. & sales mgr.; Baugh & Sons Co. of Ohio, Canton, O., asst. treas., sales mgr. Address: Baugh Chemical Co., 22 S. Calvert St., Baltimore, Md.

Protective Tariff

The Pillar of American Industry

By John E. Edgerton
President, National Association of Manufacturers



AMERICAN brains and energy have built within the last three-quarters of a century, the most gigantic national industrial structure the world has ever known. As a matter of fact, American industry is the only pre-eminent achievement of American brains and energy. I have gone into the field of religion, of education, of science, of the professions, and nowhere else have I been able to find evidence of any super achievements that would excite the admiration and envy of the world.

Industry has accomplished more economically for America than any other one thing. It is the most talked of development of America. It is the foundation and the stabilization of that prosperity about which we are hearing so much and about which some are boasting.

Underlying this great structure there are certain pillars upon which we have built and without this structure could not have been built. I have asked myself the question many times:

"Why have we been able to accomplish more in industry than any other nation in all the history of mankind? Is it because we have superior intellects? Is it because we are favorites of God and endowed by Him as no other people on the earth? Why have we been able to achieve this marvellous thing?"

To my mind, the most essential pillars that are supporting this great structure and the pillars without which it could not stand, are our protective tariff, the open shop and the American principle of equal rights. It is strange, therefore, that we find in our country to-day, active forces and influences which have as their chief objective the tearing out or the impairment of these very foundations.

Particularly, we see at frequent intervals, an agitation by short-sighted groups, for a general revision of the tariff—usually for political purposes, and not for the purposes of strengthening our national foundations. That is largely due to the fact that the people in general have been taught to believe that the tariff was instituted and is maintained primarily and exclusively for the benefit of the manufacturing industry. Nothing was ever further from the truth.

Those who are informed and who indulge in the diversion of thinking, know that our high wages, high standards of living and all of the material prosperity that we have, are due more to the protection afforded the productive industries of America by the tariff than to any other one thing.

Our tariff must remain high as long as the living standards of other producing nations remain low. There is no better way by which we can help other nations to elevate their living standards than by protecting ourselves against products made under such conditions in competition with our own. Whether, therefore, the question is viewed from the standpoint of selfishness or philanthropy, the protective tariff has more than sufficient argument in its favor to support it.

Business can survive disaster, but it is always difficult for it to cope with uncertainty. Nothing is more essential to its well-being than confidence which is the greatest of all stabilizing influences. The ever-recurrent talk about "monkeying with the tariff" is a constantly disturbing factor, and the sooner this admittedly economic question is removed effectually and permanently from the gridiron of political contest, the better it will be for all business, big and little, and for the public at large. It is most unfortunate, therefore, that apparent encouragement is so often given to those who agitate, for political reasons, a congressional revision of the tariff. For this unholy purpose, the discontent of the farmer and the general susceptibility of the wage-earning masses to prejudice against conspicuously successful business, are worked upon. It is to be hoped that the common sense of the nation will prevail against the elements of unthinking agitation with reference to the tariff.

Our protective tariff system is embedded in our industrial structure, but it operates in the midst of

continuing economic changes caused by many forces. The non-partisan tariff commission idea is sound. The need for a flexible rather than a rigid tariff to perform either its protective or its revenue functions, has been amply demonstrated.

We have, however, two methods of tariff revision: One, a general revision by the Congress; the other, continuing revision through a tariff commission. Years of experience with the former method assure us that the approach to congressional revision, the period of consideration and the aftermath of adjustment covering many months and even years of time, excite and multiply an uncertainty which destroys stability and makes the future calculation of business policy difficult and at times impossible. It checks enterprise, halts investment, curbs expansion, diminishes employment and is hurtful to every social interest. On the other hand, revision through a commission possessing the power and the means to apply accurate information to changing economic conditions as a non-partisan body preforming a judicial function and applying the progressive results of inquiry to our protective system, can make the necessary adjustments without economic disturbance.

Judicial, Non-Partisan Commission

Our European neighbors have demonstrated the superior practical advantage of that method of tariff revision. Our own experience makes it evident that the defects in our administration of the tariff are easily distinguishable from the policy itself. For they are defects of personnel and formula. The commission should be judicial in character, comparable in dignity to a high court, non-partisan and not bi-partisan.

We are less interested in knowing foreign costs of production, generally unascertainable, than the prices and conditions under which imported articles are offered in the American market. That is an easily discoverable fact. The only alternative to general congressional revision, with its accompanying periods of uncertainty and instability, is continuing revision in accordance with ascertained facts by a commission given the authority and dignity necessary to perform its essential functions.

The most important tariff issue before our people continually is not whether this or that provision of the tariff should be revised but by what method shall future revision be carried forward. Are we hereafter to have political revision or scientific revision, months of groping and uncertainty, or continuing readjustment by a qualified and authoritative body which, without business disturbance, can make the protective tariff policy perform its true function ?

It is difficult to appreciate why the banking interests especially are either antagonistic to our tariff or are indifferent toward helping maintain it. It is practically impossible to get a banker to speak a word in its favor where it will be heard. Of all people and groups in America who ought to be most sympathetic toward the protective tariff, it is the banking group. No group has profited more from the fruits of the protective tariff than the banking interests. But it is difficult to find one who is informed on the subject or who has the courage to speak his sentiments regarding it.

The hostility of the banking groups has manifested itself on many occasions with the floating of foreign loans. The American bankers have undertaken to finance our competitors abroad and that we know to quite an extent. I understand that in Germany alone within the last few years certain industries have been absolutely rehabilitated by finances furnished by American bankers. It is serious to criticise this. Money must seek its best opportunity to profit. I do not want to attack the Golden Rule, but I believe the best way for America to help the world is by maintaining the integrity of its own institutions and keeping them strong and ready for service. America is the most charitable of all nations in the world. Our record challanges the world. We put millions into the lap of Europe and no one can accuse America of being stingy and uncharitable.

But charity, like all other good qualities, begins at home. And I can find more justification for our bankers sending money to new worlds, new fields, to develop the industries of people who are far behind the rest of the world in material benefits, than I can in rebuilding age-old competitors of Europe with our own money, particularly when those rejuvenated industries are coming right back into our own markets, reducing the sales opportunities for our own products and cutting down the earning opportunities of our own workers.

America's "Front Door" of Trade

Let our bankers look more to the Orient, to some parts of the Levant and to South America, all of which are rapidly becoming the front-door of American trade. There is China and Japan, far east, and Argentine and Brazil and Chile, far south. Numerous opportunities there for investments; numerous raw materials for turning into more extensive markets; and not so much dangerous competition with the products that we make so extensively here, and which we must continue to make and sell to keep our balance. It will not be many years before Europe will cease to be the front-door of American trade and the newer fields will yield large returns to American investment. Furthermore, all philanthropic impulses will thus be satisfied by the helpful cultivation of virgin lands which have as large a claim as any other upon the world's charity.

I am making no plea for the manufacturers as a class, for they profit less from the tariff than any other group. I will give a few statistics from 1919 to the present time, which will be interesting. In writing about prosperity I am not going to deny the fact that we are the richest and most economically prosperous of all nations, but the manufacturing class as a whole is unhappier than it was eight years ago. The farmers

and the manufacturers are those at whose expense this tremendous prosperity of recent years has been built. Two out of five of all manufacturers of all sizes in this country have lost money in their operations. Forty per cent. annually not only fail to make money but lose money. Many have to liquidate. Out of sixty per cent. that show profits that have been constantly declining, a few very large concerns have made the larger part of the profits. The average of the profits made has been less than five per cent. of the capital investment.

Minority Earn Largest Incomes

Of 330,000 corporations of all sorts reporting to the Bureau of Internal Revenue in 1925, 196 made two-thirds of the profits of that entire group. Out of 88,000 manufacturing corporations in 1925, 34,000 lost nearly $1,000,000,000 that year. And of the remaining 54,000 manufacturing corporations, 551 made seventy per cent. of all the profits in the manufacturing industry. The manufacturer's position and that of the farmer is worse to-day than it was eight years ago and it is only these two classes of which that can be said. The working class is in a better condition and their wages have advanced in these years at the expense of the industrialists not because they can pay wages out of larger profits but because the margin of profit has become less under increasing competition.

The modern method of hand to mouth buying and sharp competition make it hard for the manufacturer to dispose of his goods on the market. Taxes and every other factor of cost have increased. The working classes have not suffered and the consumers have not suffered, but the manufacturers and the farmers have and they are the ones chiefly suffering to-day. The distributing classes are in a very happy condition. Wages have increased more than 200 per cent. since 1914 while the cost of living has advanced only 150 per cent. The wage earners condition now is 35 to 40 per cent. better than ever before.

Tariff Problem Grows Vital

The problem of the tariff grows more pertinent and vital to everyone in this country than ever before. Industry and business is in no position now to stand for a period of uncertainity, which general revision of the tariff in the near future would most surely bring about. Business and industry could stand a positive calamity better than uncertainty.

Keep our own American tariff policy and keep our own American prosperity.

Montreal Coke & Manufacturing Co. begins production in its coke ovens at Ville La Salle, erected at cost of $5,000,000. In addition to coke, tar and ammonium sulfate will be among chief by-products.

Industry's Bookshelf

The Remedy for Overproduction and Unemployment, by Hugo Bilgram, 100 pages, published jointly by the Vanguard Press and the Foundation for Financial Research.

Purports to be "an arraignment of some of the economic tenets taught by the modern school and shows that the paradoxes so often arising in the economic world are the natural outcrops of the false groundwork upon which some of our institutions are built." Interest naturally centers in the "remedy" which follows the "arraignment." Two plans are suggested, namely, to permit competition to regulate bank discount rates, or secondly to permit business men to cancel their accounts payable against their accounts receivable by mutual agreement. These interesting speculations are at least stimulating although their practicability seems questionable, if not impossible.

Organic Chemistry, by Julius B. Cohen, Fifth Edition, three volumes, Longmans Green & Company, New York, $6.00 per volume.

The many and great advances in organic chemistry during the past ten years have made necessary the bringing to date of this standard English work for advanced students. This task has been painstakingly and skillfully accomplished by Professor Cohen, and his three handy, well packed volumes with this new material regain their place as one of the soundest and simplest reference on the subject. Especially noteworthy is the material on synthesis, a subject upon which there is a real need for such a practical exposition of aims and methods.

Fixation of Atmospheric Nitrogen, by F. A. Ernst, 154 pages, D. Van Nostrand Co., Inc.

The first of a series of industrial chemical monographs written to interest the reader who is not a scientist or technician familiar with the subject. In addition to a general discussion of the sources and history of this industry, the three major processes, the arc, cyanamide and direct synthetic ammonia processes, are described in considerable detail. The economic aspects of the present world-wide development of this industry are not neglected.

Elements of Political Science Research, by Austin F. Macdonald, Ph.D., 94 pages, Prentice-Hall, Inc., $.90 net.

Both students and teachers of government should find this book of unusual usefulness. Its aim is to give only the chief sources in the field of political science. Specific problems are given at the end of each chapter, with a review "quiz" at the end of the book, to insure the student's making practical knowledge of the sources after having had them explained in the text.

The Fats and Oils, by Carl L. Alsberg and Alonzo E. Taylor, 103 pages, Stanford University Press.

A broad outline of the place of the oils and fats industry in the economic scheme of things. Discusses the technology, production and interrelations of the various oils and fats in a simple and interesting fashion. The emphasis is primarily economic, although some reference is made to technical matters of production, manufacture and consumption.

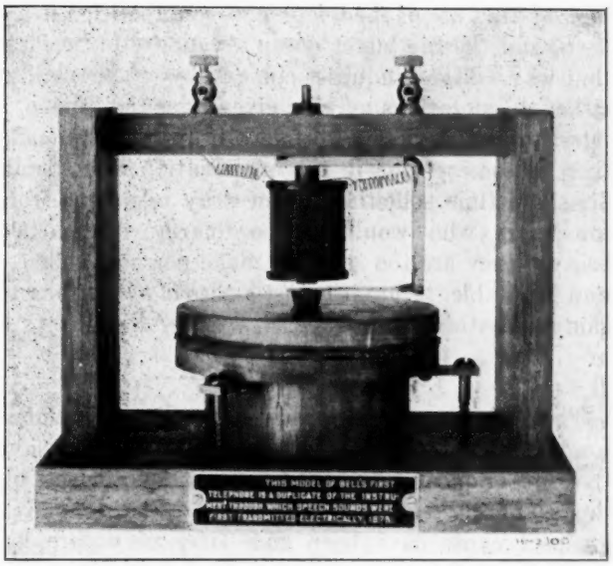
Bleaching, Dyeing, Printing and Finishing, by J. W. McMyn, F.C.S., and J. W. Bardsley, 224 pages, Isaac Pitman & Sons, $1.75 net.

A concentrated study of this important branch of the textile industry, treated in a non-technical way for the benefit of those interested in the industry who do not have technical training and experience. Nevertheless, requires very careful reading as chemistry enters into all the processes and an explanation of them cannot be made without its aid.

Telephones

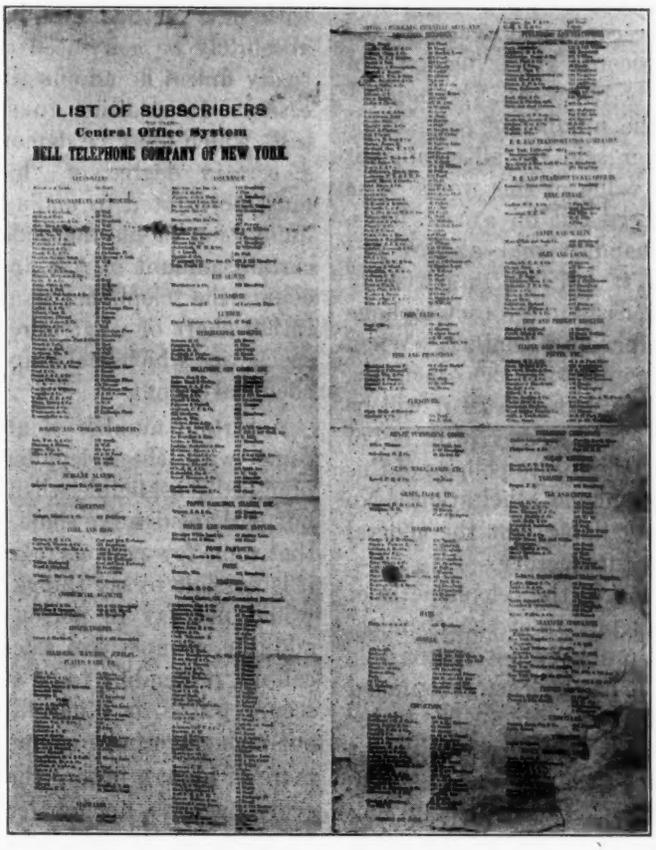
versus

Salesmen



DON'T send your salesman around to see me. If I want anything I'll call you up." This statement is being made with increasing frequency and emphasis by buyers, big and small, and the question naturally arises as to the place of the telephone in transacting chemical business. What part does the telephone play now and what further possibilities does it hold for future use ? Will personal solicitation go the way of horse-cars and tandem bicycles ? Will the successful chemical salesman of the future be the one who has a good telephone voice and makes a good television appearance ? The chemical industry has aided and abetted much more startling developments than that since the days when Charles Cooper & Co. had telephone number seven installed in New York, and the trade was kept informed on prices by means of runners sent out by the various factors, with price quotations.

As might be expected, it is the local distributor who makes the greatest use of the telephone for sales purposes. Included in this group for the purposes of this article, are the jobber, the broker and the variously termed, city sales or odd-lots departments, maintained by many producers. From thirty to close to one hundred per cent. of their sales is made over the telephone. It has been more or less humorously stated that the successful broker's chief attribute is his ability to carry on three or four telephone conversations at the same time. The sales problem of the local distributor which permits such great use of the telephone is quite clearly defined. He is working in a comparatively small and well-defined territory. He is dealing almost wholly in staples classified by grades. Seldom does any consideration but price and delivery enter into the making of the sale. Due to the size of the territory, "missionary" work is reduced to a minimum. He is working with people who know him and the chief requisite is speed in carrying out the business. As a general rule, the transactions only involve small quantities and hence the psychological factor, which demands the placing of some time and thought and talk on business involving considerable money, does not enter into consideration. For him, the telephone is the logical medium for making the quick transactions demanded by the exigencies of his business. He saves his own time and the buyer's time and yet tells the latter all he wants to know, which is all he could do by a personal visit.


LIST OF SUBSCRIBERS
Central Office System
BELL TELEPHONE COMPANY OF NEW YORK.

The first New York City telephone directory. Chemical and drug concerns constituted the largest individual group of subscribers.

The manufacturer, on the other hand, with his problems of national distribution in large quantities, makes but very

limited sales use of the telephone. Competition is too keen, and the big buyer doesn't want to do business that way. Many inquiries come in by telephone, but although quotations may be given over the 'phone, a salesman is always sent to follow it up. Occasionally there is some person in the organization who spends his spare time soliciting business by telephone from consumers who would not ordinarily be reached because they are too small to make personal solicitation profitable. Here it is just a case of everything to gain and nothing to lose.

A Sales Experiment

The sales organization of one large chemical company is carrying this idea to its logical conclusion. Over a period of a year one man is devoting all his time to purely telephone solicitation. The company's prospect cards have been gone over very carefully and many prospects were found about which very little was known. These prospects, which would eventually have been classified as "dead" because they did not warrant personal follow-up by salesmen, are being used as a nucleus for this work. In addition, classified and trade directories of every description are being used to furnish more telephone prospects. In this way, every possible consumer of the chemicals produced by this house is being solicited by telephone. Each one of them would not be seen otherwise, because each one constitutes what might be termed an "unprofitable" call for personal work. But they may be, and many have already proved to be, "profitable" calls by telephone. This experiment is now being carried on and will be continued over a period of a year. Very careful records are being kept in order that the results may be checked. The number of telephone calls made, the number of sales made and the number of calls per sale are all significant factors in determining the value of this work. The entire program will be figured out on a cost basis, balancing the total merchandise sold against the total expense. In addition, it will furnish a basis of comparison between what it costs to sell by telephone and the cost of selling by personal contact. When the one percentage is compared with the other, the result may not prove startling, but at least it will be interesting. In any case, this survey will be of utmost value in determining the future policies of this company with regard to telephone solicitation. No definite results are as yet available, but the general impression is said to be very satisfactory.

Aside from purely sales work, the telephone is of utmost importance in other phases of the chemical business. While its use is probably not responsible for hand-to-mouth buying, it has at least encouraged buying of that sort and made it possible. The buyer no longer carries large stocks, immediate shipment has become essential to doing business, and the telephone helps make that possible. It also helps to link together the sales, production, and distribution branches of the industry. Matters of policy, like increasing or decreasing production of a certain product, or of raising or lowering price, can be decided between plant and sales executives almost immediately when a crisis or condition requiring immediate action arises. Shipments can be checked or traced immediately. The sales branch can be in constant, close touch with the source of supply. The home office can maintain close contact with each individual salesman, giving him special instructions with regard to specific problems or shifting him at once into some strategic spot where his presence has become necessary. In these and many other instances where speed and a certain amount of discussion is necessary, the telephone has become indispensable.

The Telephone's Limitations

As the importance of the place of the telephone in transacting chemical business has increased, certain very definite limits as to its usefulness have become apparent. It can be used to quite a large extent in the selling of staples, but it cannot be used in the selling of specialties. This is particularly applicable to certain branches of the chemical industry where samples and specifications and tests must be conclusive before sales can be made. This is also particularly applicable to this industry because it is constantly producing new combinations which can only be marketed when the consumer is convinced that he is positively handicapped by using the old ones. A manufacturer who maintains a certain production does not want to risk it by experimenting with new methods and new ingredients. He must absolutely be convinced that he will lose out eventually unless he adopts this new product in his processes. In addition to specifications and scientific tests which must be demonstrated to his satisfaction, a certain degree of "high-pressure" salesmanship must be exerted to make him change at all, for any innovation in his methods of production calls for a certain amount of risk and expense. On both these counts the telephone, as at present constructed, falls rather short of what is required in the sale of these specialties which make up a considerable part of the chemical output.

A certain number of abuses, of course, have also come with the telephone. They are trivial and practically negligible when compared with its benefits but perhaps deserve some mention. There is the fact that some few persons take advantage of the fact that it is possible to say things over the phone which they would not say in person or write in a letter. In addition, competitive salesmen have been known to call up, pretending to be someone else, in an effort to secure prices or other information to aid them in out-maneouvering a competitor. But these are faults more of human nature than of the telephone, and of every business, not particularly of chemical business. Furthermore, it seems entirely within the range of

(*Continued on page 84*)

Exporting American Capital

Is it Proving Economically Sound?

By Leslie T. Fournier
Department of Economics, Princeton University

Dr. Fournier weighs the problematical question from a strictly economical viewpoint. He does not share the apprehension expressed by many of our industrial leaders in anticipating the fate of American business brought about by the unusual post-war interest shown by American capitalists in foreign industrial enterprises.

THE significance of the steadily increasing investment of American funds in foreign securities has been the source of of a great deal of controversy. Our foreign loans have been criticized with respect to the amounts which have been lent, the governments and private enterprises to which loans have been extended and the uses to which some of the funds have been put. In addition, the changed position of the United States from a debtor to a creditor nation has created differences of opinion as to the probable effect of our foreign investments upon our merchandise exports and imports.

Before the War, the United States held the record of being the greatest debtor nation in history. Long term foreign capital invested here was estimated at between $5,000,000,000 and $6,000,000,000. Since that time we have reversed our position and have emerged as the greatest creditor nation. Many estimates have been made of our present position in this respect, but the most reliable and complete account is to be found in the trade information bulletins of the United States Department of Commerce. Their most recent survey shows that on January 1st, 1928, the total of private American investments abroad (exclusive of the war debts) was between $11,500,000,000 and $13,500,000,000, distributed as follows:

Latin-America.....	$4,322,000,000	$5,222,000,000
Europe.....	3,171,000,000	3,671,000,000
Canada and Newfoundland.....	3,037,000,000	3,537,000,000
Asia, Australia, etc...	970,000,000	1,070,000,000
	$11,500,000,000	$13,500,000,000

These figures should constitute no grave cause for concern for, if we compare them with our total national wealth of approximately $400,000,000,000, we find that we have invested abroad only 3½% of our capital. This may be compared with an estimate of Sir George Paish in 1911, that as much as 60% of England's wealth was invested outside of the kingdom.

In order to obtain the net amount of foreign indebtedness to the United States, it is necessary to deduct from these gross figures the amount of investments by foreigners in the United States, estimated at $3,700,000,000. Accordingly the net export of capital is approximately $10,000,000,000.

A matter of first importance to our position as an exporting nation is the annual amount of dividend and interest payments which foreigners are required to make on this large investment. We find that dividends and interest due Americans on private investments abroad in 1927 amounted to $738,000,000, while the principal and interest which the United States Government received on account of the war debts in 1927 amounted to $206,000,000. Thus the total sum that foreigners were required to pay the United States in the form of return on their indebtedness was $944,000,000. If we now deduct the annual interest charges which the United States is required to pay foreigners on their investments in this country, amounting in 1927 to $203,000,000, the net annual payments from foreign countries amounted to $741,000,000.

To understand the significance of these large annual payments, which will soon pass the billion dollar mark, a brief study of our international balance of payments is essential. A nation's balance of payments is a "statement of all the valuable things received from other countries balanced against the valuable things transferred to other countries during a given period of time." This includes not solely the visible items; that is, the export and import of merchandise, gold and silver, but also a number of so-called "invisible" items, such as loans, tourist expenditures, remittances by immigrants, payments of ocean freight charges, and interest and dividend charges.

In the recently published Balance of International Payments for 1927, prepared by the Department of Commerce, many important relationships bearing upon our analysis can be seen. The study reveals, for example, that nearly one-half of our transactions with

the rest of the world during 1927 were "invisible" items. Most important in this respect is the disclosure that the capacity of foreign people to purchase American goods was enhanced by the sum of approximately $900,000,000 through the $617,000,000 expended by our tourists abroad, the $206,000,000 remitted by immigrants in the United States to their relatives, the $43,000,000 of American charitable contributions to foreign countries, and our payments to other countries of $32,000,000 for freight.(1) These sums almost exactly offset the amount paid to us by foreigners for interest on their private debts and upon their war debts to our Government. Further investigation shows that, while our foreign investments during 1927 apparently amounted to $1,976,000,000, this sum does not represent our net export of capital by a very large measure. It must first be reduced by $328,000,000 for refunding, commissions, and discounts. At the same time foreign individuals and governments repaid on private capital account for loans previously obtained here $767,000,000. In addition the net import of foreign capital amounted to $210,000,000, so that the net amount of capital exported was only about $671,000,000. A further relationship appears on analysis, namely that this figure representing the net export of American capital very closely corresponded to our favorable balance of merchandise transactions, namely, $548,000,000. The conclusion cannot be escaped that the continued large excess of exports in recent years has susbtantially represented the constant stream of new capital sent abroad for investment. This close relationship between exports and foreign investments was pointed out by the Department of Commerce in 1925 in the following statement: "The merchandise export surplus of the United States has approached 690,000,000 for the last four years, while the corresponding new foreign securities issued, after deducting refunding issues, has been $680,000,000. From this the inference may be reasonably drawn that we are putting the money we got from our export surplus into foreign investments." Incidentally it should be noticed that this statement of the Department of Commerce does not mean that the dollar proceeds of these loans passed as money out of the country. Actually the dollar proceeds stay in the United States and are the means of enabling foreigners to pay for the surplus of exports (over imports) which they purchase from us.

Effect on Our Merchandise Balance of Trade

In addition to these items of information, the study throws light on certain very important controversial questions:

1. What effect will the payment by foreigners of interest on private American investments have upon the movement of merchandise ?
2. What is the probable future of American foreign trade ?

1. These are net figures, obtained by deducting similar items in the other direction. For example, American tourist expenditures abroad amounted to $770,000,000, but foreign tourists in United States, spent $153,000,000. Therefore the excess amounted to $617,000,000.

With respect to the first of these questions, it must be pointed out that there are several possible ways by which foreigners can secure the necessary dollar exchange with which to pay interest charges to Americans. The first is most obvious, namely by a reversal of the favorable balance of trade of the United States that it will not only wipe out the present export balance but also give us an import balance as large as the interest payments to be received by us. The second method is by the United States developing a heavy adverse balance in the so-called "invisible" items, large enough to release dollar exchange sufficient to offset the export balance of merchandise and precious metals, and to take care of dividend and interest payments on our capital invested abroad. Neither of these methods need be exclusive of the other, a combination of the two would bring about the same result.

War Debts and Foreign Trade

Anything we have said about the effects which interest and dividend payments are likely to have on our merchandise balance of trade applies equally to war debt payments. Consequently the following statement by the Department of Commerce is significant:

"There has been much loose reasoning as to the influence of the war debt receipts upon our merchandise trade. It is a serious error to say that the debtor nations can pay us only by shipping us merchandise. Our war-debt receipts are an invisible export. As such they tend to detract from all other exports—including not only merchandise exports but invisibles—as well as to promote every import, whether visible or invisible. The numerous invisibles will absorb a large part of the influence of the debt receipts, and reduction in our merchandise exports may absorb even more. No great increase in merchandise imports is thus to be expected as the result of debt receipts, and a part of such increase would be in non-competitive goods on the free list. The reduction in our merchandise exports through war-debt receipts will injure us precisely as a labor-saving device would injure us; imports, visible and invisible will come to us without future effort; that is without our being compelled to produce again a corresponding value of visible and invisible exports to exchange for them. A nation is not impoverished by receiving wealth."

With respect to the future of our foreign trade, it is of course impossible to predict with accuracy what influences might in years to come affect our commodity balance of trade. However, it does not follow that because of our position as a creditor nation we shall be forced to accept an "unfavorable" balance of trade. The prediction that we are entering an era of adverse trade balance is based upon the belief that the yield on our foreign investments will soon exceed the volume of our new investments abroad. It is pointed out that so-called creditor nations have usually had

unfavorable balances of trade. England is the outstanding example, but as the Department of Commerce has pointed out, "the invisible items of that country bear little resemblance to our own,—if our large invisible imports should expand as rapidly as the income from our foreign investments, our favorable balance of trade might continue indefinitely." Furthermore, whether we continue to have an unfavorable balance of trade or not is really a matter of little importance, since it is not likely in any event that the total amount of our exports will diminish. The greater probability is that there will be a gradual increase in our imports of foreign commodities.

It does not appear from the foregoing analysis that there is any "foundation for the fears that have frequently been expressed that, as a result of the receipts of payments of the war debt and dividends on private American investments abroad, the American market will be flooded with foreign goods with disastrous results to American prosperity."

Labor's Position

Still another version of this fear is the view recently expressed by a prominent representative of labor. He holds that the transfer of American capital to foreign lands where the labor market is cheap and plentiful threatens to tear down the defenses which the immigration laws and the protective tariff have set up against the products of goods manufactured by cheap labor. He says that American labor must adhere to the policy of opposing the use of American capital for competing foreign industries. The fallacies involved in this reasoning are obvious. Such a statement implies that the higher wages of American labor have been due to the tariff, whereas they have been obviously due to the greater efficiency of industry under existing conditions. In other words, labor is surrounded here with advantages in the forms of rich natural resources and of mechanical appliances such as never before were combined. But even supposing that we were to try to protect American labor and American producers by not lending money that would benefit our competitors, we would be unable to do so. The reason is that in the absence of a complete embargo on the export of our capital, we cannot hope to accomplish a partial embargo. If, for example, we were to refuse to extend credit to a great German manufacturing company because it manufactured goods competing with those of an American manufacturer, the money which we lend abroad to other foreign interests will free funds in other money markets which would eventually reach the German company. In other words, if credit is needed by one country or one industry it will usually get it at a price. Furthermore, our strongest competitors are also our best trade customers, and it is impossible to lend money for the purpose of rehabilating our customers without at the same time strengthening the same country as competitors. "It is a great mistake to think that we have anything to gain by restricting the recovery of Europe. Some people are always fearing the competition of Europe. The really important thing is the consuming power of Europe. Those countries buy twice as much from us as they sell to us."

Another policy that has frequently been advocated is a ban on loans to foreign monopolists. The tremendous growth of international ententes in Europe may well be of concern in America, but the remedy for the protection of American industry must follow other lines, than a restriction of our investment policy.

Foreign or Domestic Investments

The query has also been raised that it would be better if the billions of dollars which have been invested abroad had been invested in America. In other words it is held that these credits which have been used to build homes and develop hydro-electric power in Europe or Latin-America should have been used for similar purposes here. The answer is that investments follow the yield and to the extent that the yield in United States is as satisfactory as the yield elsewhere investments are made in United States and vice versa. Furthermore, in the preceding analysis it is made clear that the continuance of our export surplus has been made possible by these very foreign investments. They have therefore financed the sale of goods to foreign countries which probably could not have been sold so favorably otherwise.

There are those who would advocate a requirement that the proceeds of every foreign loan be specifically earmarked for expenditure in the United States. Thus the contract for a loan to a telephone company abroad would stipulate that its equipment be purchased in the United States. However, if our foregoing analysis is correct, then, even without specific restrictions there is bound to be a close relationship between our loan policy and the continuance of our export surplus. This may be small comfort to the manufacturer of equipment, etc., who points to the obvious fact that very often American loans have been used to effect purchases from their trade competitors in foreign countries. But the conflict is a private one and should not affect broad policies which look rather to the greatest good for the greatest number. In any event, freedom from restrictions does not prevent close cooperation between American bankers and large American exporters.

Foreign Investments--Pro and Con

From the standpoint of the individual investor, the foreign outlet for his savings constitutes an undoubted advantages. Any retriction on that outlet would hurt him by affecting the rate of return on investment capital. Examination shows that foreign investments yield a rate from one to two per cent. higher than similar investments in this country. Of course there is often a higher risk and it is impossible to speculate upon the sufficiency of the differential return to offset it.

(*Continued on page 86*)

Japanese
Sulfate of Ammonia

Expansion in the Oriental markets and material reduction in the production costs of sulfate of ammonia are the keynotes of the Japanese manufacturers for the coming year. These very laudable endeavors indicate that the Japanese sulfate industry is not to be caught napping by the ever present British and German competition within its borders.

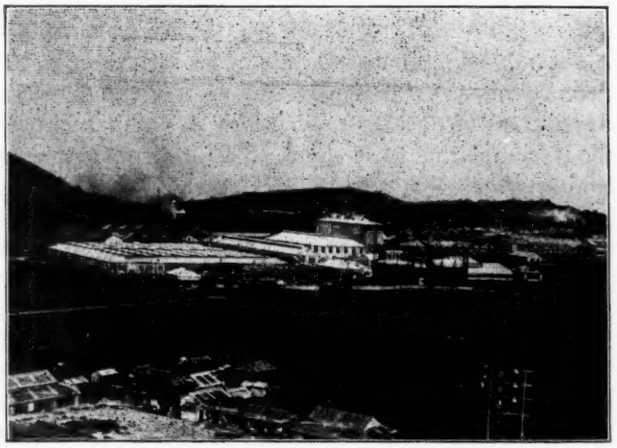
THE Nippon Chisso Hiryo Kabushiki Kaisha (Japan Nitrogen Fertilizer Co., Ltd.), Osaka, has become the largest producer of sulfate of ammonia not only in Japan but in the entire Orient, because of the increase in the equipment of its large factories at Nobeoka and Minamata, both in Kyushu, the western island of the Empire, has just been completed. With this increase in equipment, the company's annual production of ammonium sulfate has been raised to 130,000 from 80,000 tons. Each factory is equipped to produce 50,000 tons on the Casale method which patent the company purchased in 1922 from Louiz Casale, an Italian chemist. The feature of this method is to fix ammonia taken from the air and water by sulfuric acid. Nothing is wanted as material excepting sulfuric acid. But electric power is needed for the fixation and especially more power is necessary for the Casale method.

Sulfate of ammonia was first produced in Japan in 1905. The Government Steel Works manufactured it as by-product and the annual output was only 50 tons. Its manufacture was specialized in by the Nippon Chisso Hiryo which was established in 1906. The company erected its first factory at Minamata in May, 1909, and started operation the following year. The Electro-Chemical Industry Company came into being in May, 1915. The Nippon Chisso Hiryo and the Electro-Chemical Industry are now the two largest producing companies of sulfate of ammonia in Japan. There are four other minor companies in this country producing it. They are the Daido Fertilizer Co., the Hokuetsu Hydro-Electric Co., the Daiichi Chisso Industry Co., and the Dai Nippon Artificial Fertilizer Co.

The Nobeoka Factory was erected in 1923 at Hugashi-Usukigun, Miyazaki, prefecture Kyushu. Work was started in January, 1924, and the capacity then was 20,000 tons. By the recent extension of its equipment the capacity has been raised to 50,000 tons. Similar extension has been done for the Minamata Factory at Minamata, Kumamoto prefecture, which used to produce 30,000 tons. Besides, the company has the Kagami Factory producing 30,000 tons in the same prefecture.

The erection of six new power plants has been completed in connection with the increase of production. Power generation has been increased by 22,100 kilowatts to 69,360 kilowatts for 12 stations in all. It also purchases 12,500 kilowatts. The Noboeka and Minamata factories each employ 2,500 operatives who are supervised by 336 engineers in all. The company's methods of production are covered by the patent right of the Imperial Government. Among these are the manufacture of sulfate of ammonia on Baume specific gravity, and unhydrated ammonia, the manufacture of dry neutral ammonia, the improvement concerning the ammonia catalyzer compound equipment, the manufacture of nitrogen gas or notrogen and hydrogen mixture gas and many others. The company has invested 10,386,000 yen in the construction of 12 power stations. This means 156 yen per kilowatt which is the cheapest cost in Japan. It is able to declare a 15 per cent. dividend even if it simply conducts the power business.

Japan wants 800,000 tons of nitrogen for 10,000,000 chobu, or 25,000,000 acres, of land under cultivation. This amount is filled to the extent of 400,000 tons by



Minamata ammonium sulfate factory of Japan Nitrogen Fertilizer Co., with 50,000 tons capacity a year, the largest plant in Japan.

manure, etc., 200,000 tons by soya bean cake, fish fertilizers, bone dust, etc., but the remaining amount of 200,000 tons will have to be filled by such inorganic fertilizer as sulfate of ammonia.

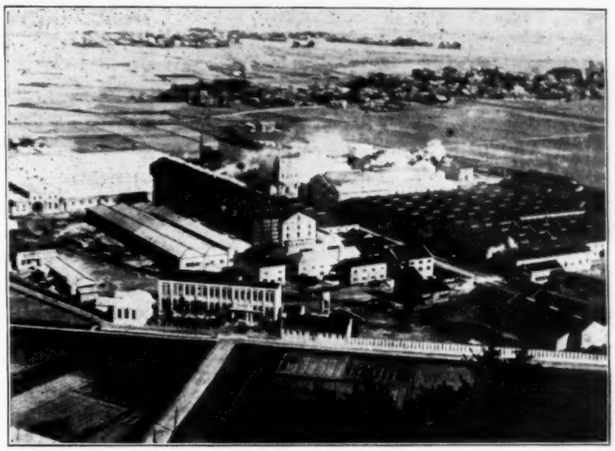
Jun Noguchi, president of the Nippon Chisso Hiryo, in a statement to CHEMICAL MARKETS said it requires at least 1,000,000 tons of sulfate of ammonia to supply 200,000 tons of nitrogen and 500,000 kilowatts of electric power is needed to manufacture this amount of ammonium sulfate. The company's capacity of 130,000 tons is too small to meet the situation. The company is trying to produce as much sulfate of ammonia as possible by the extension of plants and to replace imports valued at 40,000,000 yen by national production of cheaper cost. Mr. Noguchi further said, that the company is now constructing large hydro-electric plants along the River Fusen in Korea at the hand of the Korean Hydro-electric Co., Ltd., capitalized at 20,000,000 yen in which the Nippon Chisso Hiryo is heavily interested. The total cost of construction is 45,000,000 yen for the generation of 182,000 kilowatts which means 250 yen per kilowatt. According to the plan, 100,000 tons of sulfate of ammonia will be produced annually on 60,000 kilowatts of power for the first period. The production of 300,000 tons is possible on the completion of the whole work.

The company's cost of production of ammonium sulfate has been reduced since the adoption of the Casale method, as follows:

	Production	*Cost of Production (in 1,000 yens)*	*Cost per ton*
1918	34,300 tons	4,005	117 yen
1919	53,300	8,256	158
1920	46,900	8,361	178
1921	53,600	7,295	135
1922	53,300	6,429	120
1923	54,200	6,615	120
1924	61,000	6,573	108
1925	60,000	6,480	108
1926	70,000	6,624	95
1927	80,000	5,420	68

The fact that the Japanese electro-chemical industry yields only a small profit has many reasons to testify it. Cost of production of ammonium sulfate in Japan used to be about 100 yen, to which was added office expenses of 15 yen. Suppose it is sold for 130 yen, the profit is only 15 yen per ton. Therein lies the difficulty of maintaining an electro-chemical industry in this country. Ginjiro Fujiwara, new president of the Electro-Chemical Industry Co., told a representative of CHEMICAL MARKETS that he has assumed control of that company with the belief that proper methods of management will be able to place the industry on a paying basis. Reduction of the cost of production is his proposed plan. Japanese industrial companies employ too many men, five times those of American companies.

Supernumeraries naturally account for a high cost of production. Mr. Fujiwara has dismissed 200 men and employes. Next he reduced the money rates and cost of materials and then tried to buy cheaper power. During the last four months the cost of production has been lowered by 10 yen per ton. The company's annual production of ammonium sulfate is 100,000 tons and this means a reduction of about 1,000,000 yen a year in its cost of production. Mr. Fujiwara assured the writer that he will reduce another ten yen within the coming few months. If he succeeds in this, the cost of production will come down to 80 yen per



Nobeoka ammonium sulfate factory of Japan Nitrogen Fertilizer Co., also with a 50,000 ton capacity a year.

ton. This cost of production is an ideal one for this industry in Japan. The company thus is able to save yen 2,000,000 of expenses a year and declare a 10 per cent. or more of dividend, provided sulfate maintains a price of 130 yen or 135 yen.

The cost of production of this company still is highest, compared with that of other leading Japanese plants, as follows:

Japan Nitrogen Fertilizer..... Yen	65.50 (1928)
Japan Artificial Fertilizer.....	80
Toyo Nitrogen Industry.....	95
Electro-Chemical Industry.....	105
Average.....	86.40

This average cost of about 86 yen can be reduced to 83 yen in a few years with the completion of factory equipment extension of these companies.

Japanese fertilizer companies are trying to find new fields of business activity in Formosa and Korea as the demand at home has been decreasing since last fall. The purchasing power of Japanese farmers has lowered perceptibly since last year, due to the cheap rice and cocoon prices, and, in consequence, this year's demand for sulfate of ammonia is expected to drop 10 or 20 per cent. from last year's. Korean and Formosan farmers have begun to understand the use of chemical fertilizers, with a more pronounced tendency noted in the former territory. The consumption of ammonium sulfate in Korea last year totaled 30,000 tons and it is expected to double this year. The Nippon Chisso Hiryo Kaisha is endeavor-

ing to secure markets of its products in Korea. Due to the defective sales system which Germany has for its sulfate of ammonia in Japan, German sales are being encroached upon by British products. In consequence, German merchants are looking for a chance to secure a foothold in Korea. The Nippon Chisso Hiryo is adopting counter measures. The Electro-Chemical Industry also intends to find its market in Formosa and Korea. Consumption of ammonium sulfate in Japan for 1927 was 450,000 tons, of which 150,000 tons were produced locally.

Heavy imports of British sulfate of ammonia into Japan this year is hurting the German trade. Until last year German sulfate was imported more heavily than the British article. While 140,000 tons of German sulfate were brought here during 1927, 40,000 tons of British article was imported during the period. This year about double the amount of British sulfate last year is expected to be imported. In contrast, German sales are falling off. H. Ahrens & Co., which acts as import agent for German sulfate, is considering the adoption of counter measures. The German company in consultation with the Toyo Nitrogen Industry Co., which holds a concession for the Haber system, is going to increase the number of sub-agents in addition to the Mitsui Bussan Kaisha and the Mitsubishi Shoji Kaisha. The reason for the defection in German sales is that, while German products are sold to fertilizer merchants through sub-agents at the commission of 2.50 yen, British products are sold directly to them. Under the circumstances, there is always a difference of two or three yen between the German and British prices in Japan. By the increase of sub-agents the German import agent hopes to reduce the burden of the commission it has to pay.

Total exports of aniline dyes from Switzerland were valued at $2,264,146 the first two months of this year, against $1,844,466 during the same period of 1927, according to the Vice Consul at Basel, Switzerland, A. W. Scott.

The factories in the Basel manufacture practically all of the aniline dyes produced in Switzerland and continue to find a profitable market for their output, the indications being that the volume of business this year will be even larger than in 1927.

Trade with Germany, which takes the largest quantity of the dye exports, is considerably better than last year. An improvement has also been noticed in business done with American dye importers.

Exports to France have been low so far this year, but it is believed that the lower rates of duty provided by the recent Franco-Swiss tariff agreement will permit a larger French trade in coming months.

Agricultural Experiment Station, University of Tennessee, issues as *Bulletin 139* a report by S. Marcovitch on "Studies of Toxicity of Fluorine Compounds."

The report outlines the historical background, gives the properties and reaction of the fluosilicates, their commercial availability and, in some detail, the nature of poisoning by fluorine compounds, their attractiveness to insects, to vertebraes, plant tolerance for them, their effect on different types of organisms, and concludes with quite an extensive bibliography.

The bulletin will be sent free of charge upon request to the Experiment Station.

Foreign Trade Opportunities

Aniline, log-wood extract, and tan color	*31511	Bologna, Italy	Purchase.
Chemical specialties	†31566	Milan, Italy	Agency.
Citric acid crystals and powders.	*31520	Villeneuve-sur-Lot, France.	Do.
Enamels and dyes	†31516	Paris, France	Do.
Fertilizers	*31513	Hanover, Germany	Either.
Match chemicals	†31518	Prague Czechoslovakia.	Agency.
Matches	‡31571	Casablanca, Morocco.	Do.
Oils, lemon	†31496	Prague, Czechoslovakia.	Do.
Potassium permanganate	*31520	Villeneuve-sur-Lot, France.	Do.
Putty	†31519	Toronto, Canada	Do.
Pyroxylin, plastic, galalith and synthetic resins.	†31517	Barcelona, Spain	Do.
Pyroxylin sheets and waste	*31512	Nuremberg, Germany	Purchase.
Rosin	*31510	Naples, Italy	Do.
Do	*31513	Hanover, Germany	Either.
Adhesive for bottle cap manufacture.	†31649	Auckland, New Zealand.	Purchase.
Belt paste and preservative	‡31654	Bombay, India	Sole agency.
Chemical specialties	†31663	Mannheim, Germany	Agency.
Chemical specialties for lithographic trade.	†31714	Milan, Italy	Either.
Chemicals	*31666	Amsterdam, Netherlands.	Agency.
Chemicals, fine	†31658	Johannesburg, South Africa.	Both.
Chemicals, heavy	*31699	Sydney, Australia	Agency.
Chemicals, industrial	†31665	Hamburg, Germany	Do.
Dyes, aniline, naphthol, and acid.	‡31654	Bombay, India	Sole agency.
Lacquer materials, raw	†31665	Hamburg, Germany	Agency.
Paint materials, raw	*31659	Dresden, Germany	Purchase.
Paints, lacquers, colors, varnishes, and raw materials.	†31663	Mannheim, Germany	Agency.
Paints and varnishes, automobile.	*31657	Dresden, Germany	Do.
Pyroxylin and pyroxylin scrap.	*31659	do	Purchase.
Rosin, wood	†31662	Calcutta, India	Do.
Rosin and turpentine	†31665	Hamburg, Germany	Agency.
Size, and wall paper cleaners	†31664	Toronto, Canada	Do.
Chemicals, industrial	†31785	Barmen, Germany	Do.
Explosives	*31815	Bogota, Colombia	Do.
Fertilizers	†31832	Rosario, Argentina	Purchase.
Indigo, synthetic	†31752	Calcutta, India	Either.
Insecticides	*31832	Rosario, Argentina	Purchase.
Lacquers and varnishes, automobile.	*31834	Dresden, Germany	Either.
Naphtha, wood	†31783	Cairo, Egypt	Agency.
Paints, enamels, and pyroxylin lacquers.	*31747	Leipzig, Germany	Do.
Rosin	*31749	Dresden, Germany	Purchase.
Do	†31751	Hamburg, Germany	Agency.
Uranium and cobalt oxides, and cobalt oxalate.	*31748	Meissen, Germany	Purchase.
Rosin and turpentine	†31358	Johannesburg, South Africa.	Do.
Superphosphate and ammonia sulphate.	*31458	Quebec, Canada	Purchase.
Uranium oxide and cadmium sulfide.	†31353	Meissen, Germany	Do.
Baking powder chemicals	*32095	Kobe, Japan	Do.
Borax and boracic acid	*32092	Berlin, Germany	Do.
Dental chemicals	*32071	Prague, Czechoslovakia.	Agency.
Do	*32077	Singapore, Straits Settlements.	Do.
Enamels and inks for finishing collapsible tin tubes.	*39040	Mexico City, Mexico.	Purchase.
Essences of flowers for perfumes.	*32017	Erfurt, Germany	Do.
Insecticides for fruit trees and potatoes.	*32088	Sao Paulo, Brazil	Do.
Nitrocellulose solutions, clear	*32091	Leipzig, Germany	Do.
Pyroxylin lacquer	*32096	Zeulenroda, Germany	Do.
Pyroxylin lacquer for piano cases.	*32094	Leipzig, Germany	Do.
Rosin and turpentine	*32093	Halle, Germany	Do.
Turpentine	*32017	Erfurt, Germany	Do.

The French Government nitrogen fixation plant at Toulouse occupies a surface of 80 hectares, of which 13 hectares are under cover, reports Assistant Commercial Attache Daniel J. Reagan, Paris. The electric power plant that has been installed can develop 30,000 kilowatts. The steamboilers and the heat recovery plant are capable of producing 55 tons of steam superheated to 350 degrees C at a pressure of 16 kilos per hour, and even more should necessity arise. The steam turbines working the low pressure compressors will absorb 22 tons of steam at a pressure of 16 kilos per hour, which will be distributed to the various plants at a pressure of four kilos; the pumping stations will raise 310,000 cubic meters of water every 24 hours, from the river Garonne.

*Checking Foreign Credits**



By T. J. Whearty
Credit Manager for National Carbon Co., Inc.

A dearth of reliable foreign credit information has long been an impediment to expansion of American export business. The conclusions of this exporter, drawn from long experience in the export credit field are well worthy of consideration by that branch of the industry which contemplates any sizeable scale of export venture.

IN discussing the question of properly and effectively checking the credit of the buyer of our products in foreign countries we are dealing with one of the most vital factors required to build up and maintain satisfactory export trade.

Many American firms who are able to meet competition and have the facilities for developing world-wide distribution either remain out of export trade or look upon it as a distinctly unwelcome stepchild which must be given some attention but is not worthy of more than passing consideration. To a large degree, this attitude arises from fear or ignorance, both closely related and largely centering on the credit side of the picture.

The determination of safe credit in export trade is one of the chief obstacles, and until a firm has confidence in the credit information available, it usually rejects export activities. In a recent survey made by Ohio State University, replies to a question asking why manufacturers are not actively engaged in export trade show that first is the matter of meeting foreign competition; second, the question of properly judging the credit risk, and fifth, the difficulties of foreign collections. In the first classification, there is undoubtedly a decided angle of credit, in that terms of sale and the amount of credit extended enter largely into any question of competition.

While many of you may have read or heard the oft-repeated statement that credit is a necessity in foreign trade, I wish again to emphasize this most strongly. We have passed the day of the seller's market in export business, and with the keen foreign competition we must grant reasonable credit to the responsible buyer. I do not mean excessively long terms but do mean a fair amount of time for the buyer abroad to take care of the transaction, and if credit is the life blood of domestic business, it also is the vital factor in export trade.

Not only must we meet competitive conditions in the question of terms but we must take into consideration the requirements of the foreign buyer. These in most cases are quite different from the factors which govern domestic trade. For instance, in the case of many responsible foreign concerns there is comparative lack of capital in that money is not as readily available as we might ordinarily consider it here. Transportation is oftentimes difficult and requires considerable time, not only for the movement of merchandise but also for the transmittal of drafts, documents and the return of funds on payments. Banking facilities in many foreign countries are inadequate, not only as to the lending of money to the merchant, but also in the handling of collections and the remittance of funds; and it may be generally said that export markets comprise agricultural communities which are dependent upon seasonal prosperity and a correspondingly long turnover.

Despite statements and some individual experiences to the contrary, credit losses in well-managed and efficiently operated export trade can be and are held to less than one-half of one per cent. and investigations have proven that in concerns operating both a domestic and foreign credit department, the comparison of losses is in favor of the foreign business. This proves that export credits are being safely and effi-

*Address before Annual Convention, National Ass'n of Credit Men, Seattle, Wash., June 12, 1928.

ciently checked and that in general the foreign buyer is just as reliable and as good a credit risk as the responsible domestic merchant.

The checking of foreign credits requires careful application and study and cannot be undertaken satisfactorily merely as an offshoot or a side line of the credit department. In our domestic business many facts are automatically at our finger tips and we are in comparatively close touch with conditions in various parts of the country to which our products are being shipped. On the other hand, in foreign trade not only are distances usually greater but the information regarding conditions in foreign countries is not as automatically available, although it can be obtained by investigation.

Economic Conditions Important

Social, economic and political conditions in foreign countries are vitally important as well as a study of the racial characteristics and exchange situation, the financial background of the country, and crop conditions, which in many foreign countries largely determine the question of general prosperity.

I have touched on some of the more important factors of a general nature to be taken into consideration, and now wish to consider how the individual foreign credit risk can be checked. In general, it may be said that while the fundamental principles of domestic and foreign checking are the same; and the well-known requirements, Character, Capacity and Capital, are used, it is not generally possible to obtain the same kind of information that is procurable on domestic business. By that I mean that financial statements, on which a large part of our domestic business is governed, are not readily obtainable and often cannot be obtained. This is due to the feeling still existing in many parts of the world that such information is of a highly confidential nature which can be disclosed only to confidential banking connections.

Sources of Information

The sources for obtaining information on concerns abroad are chiefly the reports from agents and representatives in foreign countries, which should give not only the agent's own opinion but also a check-up made from responsible local sources, such as banks and merchants, to get both the financial and the moral responsibility. It is well to build up information from the usual commercial agencies which gives the vital information of a historical nature and forms a background on which current checking can be maintained. Bank information is important and should be secured, and through experience the best banks for securing information in certain countries or on certain concerns should be tabulated and used.

There is also the information obtained through United States government representatives abroad, such as consuls, commercial attaches, trade commissioners, etc., all of which is available through the Bureau of Foreign and Domestic Commerce either in Washington or in various cities throughout the United States. While this is not compiled as credit information, nevertheless it is of great importance in building up a proper picture of the foreign account. Special agencies in certain lines are also valuable.

All of this more or less general information is vital and must be obtained, but the most important information is the paying habits and the paying record of the buyer abroad. This is obtained from others who have sold or are selling the account.

In order to provide an efficient and economical means of obtaining this important information, members of the National Association of Credit Men actively engaged in export business, have set up a means for covering this phase of the situation. Nine years ago, these members of the National Association saw the vital need for an interchange of ledger experience on foreign accounts, and through their efforts the Foreign Credit Interchange Bureau was established.

Foreign Credit Interchange Bureau

This Bureau has had a most remarkable growth when conditions confronting our export trade are taken into consideration. Under the auspices of the National Association of Credit Men the Bureau is providing a clearing house of ledger experience for the vast store of foreign credit information which has been gathered through the actual experiences of its members. The bureau has available sources of information on over 300,000 foreign firms and this list is constantly being enlarged by the experiences secured on new accounts opened by old members or the ledger record of new members.

Members of this organization who co-operate in this non-profit making branch of our Association work are enabled not only to secure the experiences of other members with foreign concerns, but also can use this bureau as an economical means of covering such references as may come to their attention.

The operation of the Foreign Credit Interchange Bureau is under the direction of a Supervisory Committee consisting of its own members, all of whom are experts in granting foreign credits and represent concerns nationally known in domestic as well as foreign business. They have given freely of their time, experience and energy in working out the problem of placing this unique and valuable service at the disposal of American exporters.

The principal service of the bureau consists of compiling reports in reply to direct inquiries from its members. A clearance is made of all firms which the bureau knows to be interested in the account, and inquiries are sent only to those who have indicated their previous experience with the firm, in order to avoid a large mass of detailed paper work. These reports give information of value on such items as the number of years sold, the terms of sale, highest recent account, manner of payment, as well as the all

important opinion of the account in the eyes of the individual credit manager.

The reciprocal feature of the bureau's service is one of its greatest advantages. Whenever information is given to the bureau, a copy of the completed report is sent to all those who have contributed and in this way files are automatically kept up-to-date. It often occurs that through these reciprocal reports current information is readily available when the occasion arises without the necessity of making a new clearance or making a separate inquiry, thereby providing a means for prompt action.

There are other features available to the members of this bureau, which are important, such as the Moral Suasion service on delinquent and troublesome accounts, co-operative work in the handling of unusual situations and the interchange of general information through the Weekly Confidential Bulletin.

Interchange of Opinions Valuable

I wish to stress particularly the importance of the interchange of experience on foreign accounts because the foreign buyer in general handles more varied lines than in domestic trade. Many foreign firms change their line of business and go from one line of distribution to another as may appear to their advantages, and this is one of the important reasons why an interchange of information from all classes of trade and from many unlooked for or unknown sources of information proves extremely valuable.

If closing, let me point out that vision in checking foreign credits is one of the most important factors. By that I mean vision to see the transaction through to the end, understand the conditions in the foreign country, the means of collection required and the different legal requirements which must be complied with, for without being able to see the situation to some extent from the buyer's point of view, difficulties are bound to arise and the checking of foreign credits will become a burdensome and troublesome task rather than an efficient means of protecting your company's interests in its overseas business.

According to Italian Royal Decree Law 846 of April 15, 1928, artificial manganese dioxide, paraffin, ammonium chloride, rosin, and zinc chloride, are added to the list of articles which may be temporarily imported duty free, when used in the manufacture of electric batteries for export, reports Assistant Trade Commissioner E. Humes, Rome. The minimum quantity which may be imported for this purpose is 100 kilos and the time limit for reexportation is one year. The concession is valid for a period of two years. The same concession is granted to temporary imports of crude ichthiol used in the manufacture of ammonium ichthyolate.

By authority of the Secretary of Agriculture, permission has been granted to dispose of its surplus stock of calcium gluconate. Sales of this material at two dollars per pound will be made in pound lots to universities and research laboratories, commerical or other wise, under the restriction that the material is not to be resold. Inquiries may be addressed to the Color and Farm Waste Division, Bureau of Chemistry and Soils, Department of Agriculture, Washington, D. C. Checks should be made payable to the Disbursing Clerk, Department of Agriculture.

The Editor's Correspondence

Editor, CHEMICAL MARKETS:

I read with interest your editorial on "Patents and Property" in the current issue.

I am quite certain that your remarks will be received with approbation by the great majority of your readers.

Any concern or individual with a conscience will heartily agree that a patent which in substance, in whole or part, is a revelation of a new process or product is a private property right whose sole title and the benefits to be derived therefrom remain entirely in the possession of the patentee unless sold or assigned.

There is one phase of this subject, however, which you have not referred to in your current editorial and that is, the great number of patents which are issued by the Patent Office which really are not valid patents and which are taken out by various individuals and concerns who succeed in obtaining a patent from our Government on matter which really is not patentable. I know of several instances where a sufficiently close study of the subject would have revealed, before the issuance of the patent, sufficient facts on which to refuse the grant. I believe, in many instances, the applicant or his principals have knowledge that their claims are very shaky and yet they make application with the hope that due to the great demands made on the time of the examiners at Washington will prevent a sufficiently thorough investigation and that they will succeed in obtaining a patent which will permit them to hold a club over the heads of their competitors.

It is my opinion that the fault lies, not in our Courts so much, as in the system in the Patent office and the failure of our Government to provide proper facilities to the Patent Division to permit it to make a sufficiently thorough and careful examination on each application.

Very truly yours,

Wilkes-Barre, Pa.,
June 20, 1928.

R. I. BASHFORD,
Peerless Explosive Co.

There is at present no domestic radium production, according to H. A. Doerner, United States bureau of Mines. The carnotite ores of Colorado and Utah were the chief sources of radium for many years. In the Fall of 1922 news of the very rich deposits of radium ore discovered in the Belgium Congo caused almost complete cessation of domestic production. The Congo ore contains pitchblend and a number of alteration products, including the new minerals, bequerelite, curite, kasolite, stasite, and dewindite. Reports indicate that a considerable amount of ore containing over 50 per cent. U308 has been produced. It seemed certain that radium could be extracted from the Congo ore at a much lower cost than from the relatively low-grade carnotite; and in order to preserve their elaborate marketing organizations, the larger American producers made agreements with the Belgian syndicate to market the foreign product in this country. The price of radium has been held at $70 per milligram. Extraction of radium from carnotite by the usual methods does not seem to be profitable at that price. With one exception, all American firms ceased production after their accumulated stocks of ore had been treated. The United States Radium Co., which continued to treat radium for several years, has recently shut down its plant.

Exports of zinc oxide from the United States during April amounted to 1,707,084 pounds, valued at $106,575, which compares with exports during March, 1928, valued at $155,045, and during April, 1927, valued at $142,799.

ELECTRICAL POWER *in the Electrochemical Industry*

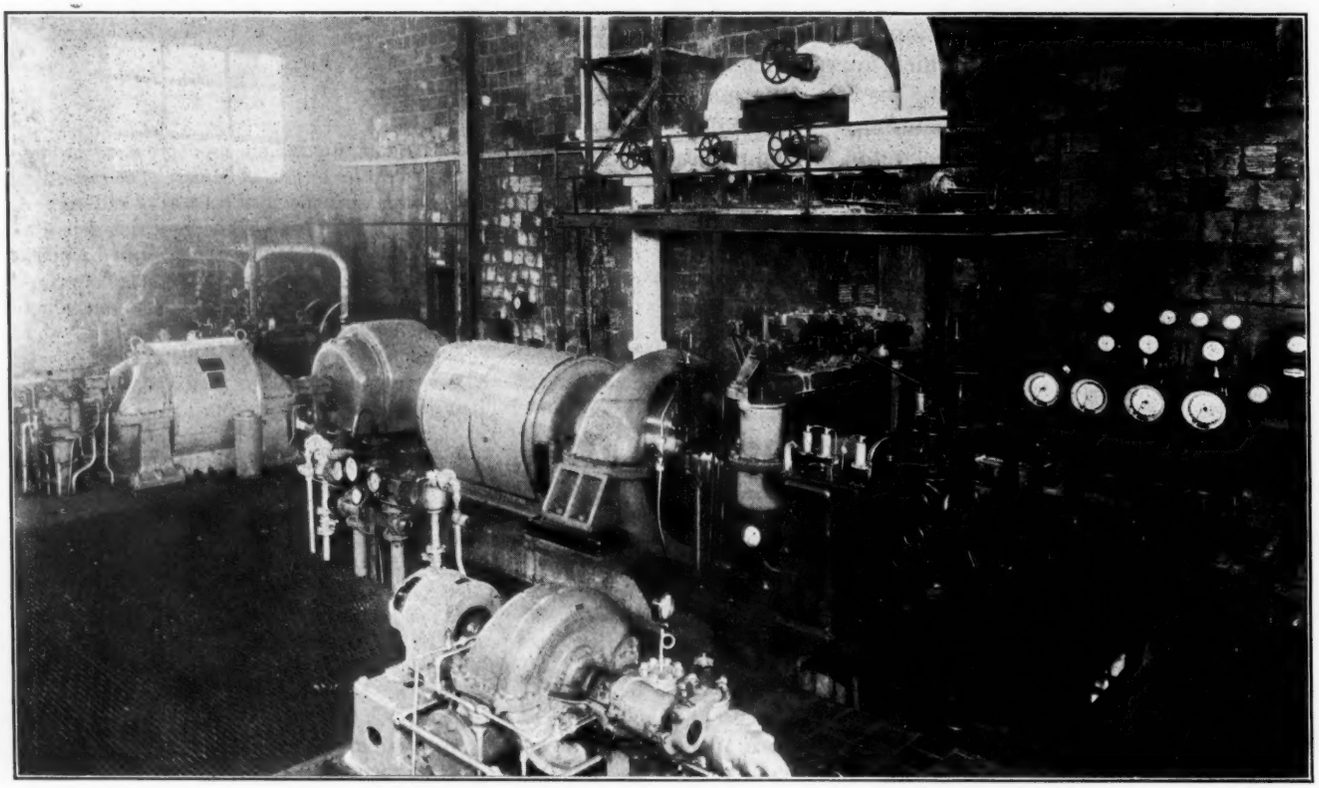
By R. H. Rogers
Industrial Engineering Dept., General Electric Co.

THE chemical industry, as a user of electric power, differs in many respects from most other industries. The demand for power is more nearly continuous, in fact in many cases it approaches 100% of the hours in a year. Full load operation is the rule and in some branches of the industry there is little or no let-down for very long periods. In most industrial plants an interruption of power entails only a proportional loss in production, but in the chemical industry the losses may far exceed those simply due to time-out. The cost of power is usually a large proportion of the total cost of production in a chemical plant.

With all these points of difference in view, it is to be expected that unusual precautions are taken to insure not only freedom from interruptions of power but continuity of service is demanded of every piece of electrical apparatus installed in the plant. The reason for the latter attitude is apparent when it is considered that the work of some small and inconspicuous unit may be absolutely essential in a sequence of major operations. As a case in point, consider the three horsepower kiln-feeder motor in a cement mill—the failure of which would reduce production by 1,500 to 2,000 barrels of cement per day; furthermore as the kiln is the pacemaker for the plant the lost production cannot be made up. When power is interrupted in a chemical plant there may be a batch loss or several hour's production may be lost because of a cessation of power for only a very brief interval. The power used in many chemical plants is purchased and in others a combination of purchased and generated power is used and the general trend is along this line.

Purchased and Generated Power

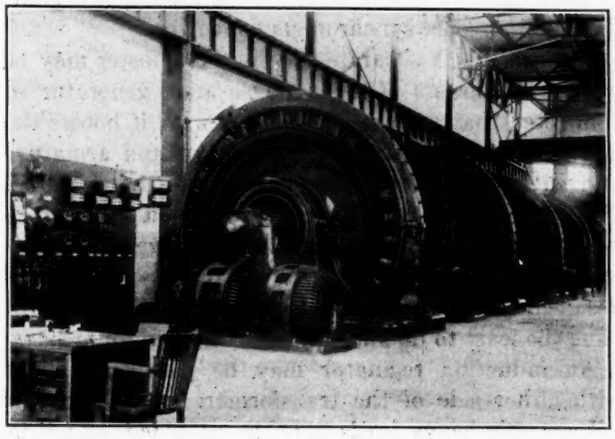
The factors that favor the purchase of power are these: Many companies prefer to use their capital directly in line of production of chemicals leaving the production of power to those who make it their sole business. It is generally felt that a private power plant would have to be extensive and would have to



Installation of cycle turbine and turbine exciter set in the East St. Louis plant of Monsanto Chemical Works.

carry extra units to afford anything like the security from power interruptions that is afforded by the modern power networks. When all costs are properly allocated, the cost of power from a private plant is likely to be the more expensive unless there are some special circumstances that favor the private plant.

The erection and operation of a private power plant may be an economic procedure under one or more of these conditions. A plant may be so located that there is no power available from outside though such areas are becoming more and more restricted. It is more frequently the case that a chemical plant is



Five synchronous converters at the Great Falls, Montana, plant of Anaconda Copper Mining Co.

established where low cost power is available rather than as dictated by raw material, market or transportation factors. Having a private powers site or having very low cost fuel available might justify a private plant. The need for process steam and heat is usually the deciding factor. By-product heat has sometimes decided the question in favor of a private plant. The use of a supplementary turbine generator in connection with purchased power is often a good economic practice since the steam can be generated at high pressures and reduced through the turbine. The electricity resulting may be considered a by-product obtained at a low cost.

Purchased power should come into the substation over more than one line. Each line will have its lightning arresters and choke coils and high tension switchgear consisting of an oil circuit breaker with disconnecting switches on each side. The lines will feed to a common bus, usually single but sometimes double where extra precautions are taken to avoid interruption. Feeders to the various conversion units and for the plant motor circuits take off from the common bus through disconnecting switches and oil circuit breakers.

Next come the transformers in the conversion units if they are required and in the feeders for the motor.

The transformers may be of standard design fitted with oil conservators and the usual accessories. They may be single or three phase and should be fitted with trucks to facilitate moving. A spare transformer is a good investment from the continuity insurance standpoint and is least expensive where single phase transformers are used. The transformers for the motor circuit may have a 2,300 volt secondary or both 2,300 and 440 volts for large and small motors. Some prefer separate 2,300/440 transformers for the small motors. Suitable lighting transformers may be connected to either the 2,300 or the 440 volt circuits.

Turbine Generators

Private plants in the chemical industry are generally designed for the generation of alternating current, the greater portion of which is converted to direct current the same as where power is purchased. The reasons for this practice are that direct current generators are not as well adapted for high speeds in large units. In addition heavy electrochemical work requires an independent direct current unit for each battery of cells. Two or more turbine generators occupy the place of the incoming lines as described under purchased power, otherwise the entire electrical layout is very similar.

The turbine lends itself to industrial demands through its ability to deliver steam for process work at almost any pressure below the boiler pressure while operating condensing or it can be operated non-condensing for delivery of exhaust steam where large quantities are required at low pressures. When conditions warrant the practice, steam may be taken from one stage, used and returned to the turbine at a lower stage. A valuable feature of extracted or exhaust steam from a turbine is that it is free from oil.

Excitation is usually furnished by direct connected exciters supplemented by an auxiliary exciter set with turbine drive. Where d. c. power is required for small adjustable speed feeder motors it is usually taken from a separate circuit.

If it is possible to do so the private plant may be tied in with a public service system preferably on a give and take basis which adds another source of power to the plant, provides a market for surplus power and makes it possible to draw casual power when the demand is insufficient to make it pay to operate the private plant. Therefore in planning a private plant the actual or potential tie-in with power networks should be considered.

Two Standard Frequencies

There are now two frequencies in this country as standard, namely 25 and 60 cycles. The former, primarily because of the limitations it imposes on the selection of possible motor speeds and its inferiority for lighting, is fast being superseded by the latter. In fact, at present, 60 cycles is in almost universal use throughout the country. While we have adopted 60 cycles. Europe has come to regard 50 cycles as a standard frequency.

The conversion units for individual circuits may be either synchronous converters or motor generator sets. Under certain conditions either may be more desirable

than the other and there are many factors to be considered before deciding between these two types of conversion units. The salient features may be outlined in this manner:

Motor generators rated approximately 1,000 kw. and above can be operated directly on the system voltage unless it is 11,000 volts or more in which case transformers are required.

Starting is as simple as with any synchronous motor.

Voltage adjustment is readily accomplished by generator field control, fields being separately excited if wide range is required.

Synchronous motor of set may operate on leading power factor for power factor improvement if such is needed.

Direct current side is practically free from disturbances in a. c. applied voltage as conversion passes through the mechanical stage. This is a particularly valuable characteristic where the transmission lines are long and subject to lightning disturbances.

Overall efficiency not as good as with synchronous converter. Difference may be from 1 ½to 4%.

Synchronous converts being the more efficient tend to save a large amount of money per year particularly as in this application the load factor is very high and the power cost is a large proportion of total cost.

The lower first cost of converters reduces the cost of production through its effect on overhead.

Changes in system frequency do not affect d. c. voltage as it does with a motor generator set.

Converters are essentially unity power factor machines.

Motor Generators

A motor generator set in these sizes and for this service practically always utilizes a synchronous motor for the driving unit. The direct current generator is usually shunt wound and has high inherent voltage stability. Motor generators are built with one or more generators according to the current required. A direct connected exciter is practically always used for the synchronous motor excitation and where the required d. c. voltage adjustment is more than 20%, it serves to excite the generator fields as well. The set may be stated on reduced voltage by means of taps in the transformers or by means of an auto-transformer. The direct current voltage is adjusted by means of a simple field rheostat.

A synchronous converter always requires transformers on account of the low applied voltage hence taps for 50% voltage can be provided in the secondary for starting converters in the smaller sizes. A double-throw triplepole knife switch is operated by hand to apply reduced voltage and to throw over to full voltage. In large sizes the switch becomes impracticable and starting must be done by: (a) Y to delta connections in the transformer primary windings thus providing 58% voltage for starting; (b) direct connected induction motor or (c) starting of converter from the d. c. end. The two latter methods avoid the complexity of a brush-raising mechanism on the direct current side of the converter. Starting from the d. c. end is sometimes done from a starting bus energized from any unit that may be running. This means that one or two sets must be provided with other means for starting. Another way is to provide a small motor generator set for the express purpose of energizing the starting bus when needed. It must have sufficient capacity to start the unit and supply no load losses of the connected transformer.

Adjusting Synchronous Converter

There are three available means for adjusting the d. c. voltage of a synchronous converter.

A built-in or a separate driven a. c. booster may be used. It consists of a six phase a. c. generator so connected that with excitation one way, it boosts the a. c. voltage between the transformer and armature and with excitation reversed, it bucks that voltage. The d. c. voltage, having a fixed relation to the a. c. voltage at the armature is raised or lowered accordingly. Obviously, if the transformer secondary is designed for mind-voltage operation, the booster will have the least to do and can be of the minimum size.

An induction regulator may be placed in series with either side of the transformer. If in the low voltage side heavy loads must be provided, and if in the high side the transformers will cost more as they must be designed to operate through a voltage range corresponding to that of the converter. The induction regulator method of voltage adjustment is not as popular in this country as in Europe.

The use of the load ratio control transformers or as it is sometimes called the tap changing transformer is a comparatively new method for converter voltage adjustment. The tap changing mechanism is built integral with the transformer which is provided with two primary windings in the portion that is under control. In operation, this mechanism functions to disconnect one winding from the circuit, change the connection to an adjacent tap (new voltage ratio) and then restore it to service. It then performs the same operation with the other winding and repeats this cycle until the desired ratio is attained. With a number of sets of taps, a wide range of voltage ratios can be traversed under load. For intermediate values the converter excitation is changed which in turn affects the power factor, thus changing the potential drop through the transformer and causing a corresponding change in the d. c. voltage. Since field control is only good for about 5% adjustment each way, the tap ratios should be closer than 10% to insure complete coverage of the desired range. It should be borne in mind that changing the field strength causes the converter to operate with leading or lagging power factor and the converter has to be especially designed for this condition.

Electric motors as designed and built by the best manufacturers are well suited for all ordinary classes of work in the chemical industry. Electrical and

mechanical standards of stock motors and controllers have been raised during the past few years to include items that were previously considered special. Unless conditions surrounding a motor are very much out of the ordinary, standard units will be successful.

However, where conditions are (or are likely) to be at times extra hazardous for any reason, motors especially designed to meet the conditions should be applied.

Motor Operation

Where motors are certain to operate continuously in explosive atmospheres, it is obvious that the open direct current motor or wound rotor induction motor cannot be used on account of exposed sparking at commutators and the collector rings. Such atmospheres are those in which a flammable gas or vapor is mixed in dangerous proportions with air. However, the open squirrel-cage motor is ordinarily considered fairly safe, especially for the less hazardous conditions. It is desirable to have this type of motor equipped with special insulation and a shelter top to protect the motor against injury by dropping objects. These features add to the factor of safety, and with proper care of the windings and bearings there is little possibility of sparks originating in the motor. For the more hazardous conditions even the squirrel-cage machine should be considered only in special constructions.

The ordinary totally inclosed motor, as designed by practically all manufacturers, is not gas tight. Such motors, nevertheless, when well constructed, are ordinarily quite safe for use in explosive atmospheres where the explosive hazards consist of air-borne dust and when flammable gases or vapors are absent. Where, however, gas is continually present, this type of machine is not recommended. Undoubtedly, there are plants where ordinary totally inclosed motors of the commutator or slip ring type are practically as safe as the open squirrel-cage motor. These are plants where the gases only occasionally or accidentally come in contact with the motor and the atmosphere is rapidly cleared by the ventilating system. For these cases, the ordinary enclosing features would prevent immediate direct contact of the gases within the sparking surfaces. However, if the gas were to remain for any length of time, it would undoubtedly reach the commutator or slip rings. The new totally-enclosed fan-cooled motors for both alternating and direct current are practically dust tight, but are not gas tight and therefore come in practically the same classification as other ordinary totally inclosed machines, not especially designed for use in explosive gases.

A special totally inclosed motor, designed particularly for use in explosive gases in accordance with the recommendations and requirements of the Bureau of Mines and the Underwriters' Laboratories, will generally embody "wide flange" construction. This construction involves the use of inclosing parts heavy enough to withstand the pressures of internal explosions and the use of carefully machined flanged joints sufficiently wide to cool the flame of an internal explosion down to a point where it will not ignite the surrounding gases. No gaskets may be used, as these might be damaged or even omitted during reassembly of such apparatus. In motors of 1 hp. and larger sizes, a flange at least one inch wide is usually required. The joints must be fitted with a sufficient number of bolts to prevent warping or buckling of the flanges between bolts during an explosion. Such motors are not gas tight and gas may consequently be breathed into the housing while it is cooling after an extended run under load. As pointed out, however, an explosion of this gas inside the motor will not transmit flame to the outside of the machine if the proper type of construction is used.

Various Motor Types

Several types of motors have been designed and built using this construction and are now available. The safety features are embodied in the case itself, which obviously can be used to house induction motors, single phase motors, or direct current motors. This construction is available in sizes not greater than 15 hp.

While the ordinary totally inclosed fan-cooled motor is not recommended for use in explosive gases, a motor of this type modified to use wide flanges, heavy inclosing features, a sufficient number of bolts and the proper terminal plates can be furnished in larger sizes.

Direct current, constant speed, totally inclosed motors with starters built in accordance with the requirements of the U. S. Bureau of Mines for equipment permissible for use in gaseous mines have been developed in ratings from one to five hp. for 1,200 r.p.m. and 250 volts. Fractional horsepower motors with wide flange construction, rated at ¼, ⅓ and ½ hp. are also available. Any of these latter motors are suitable for light service in explosive atmospheres.

The inclosed, ventilated motors are available in polyphase and direct-current types in the usual ratings. This type of machine is considered fairly safe for use in explosive gases, provided, of course, that the intake and outlet joints are kept in a tight condition and supply of fresh air is constantly maintained. In very hazardous locations, it is advisable to prive an auxiliary fan to force air to the motor whether it is operating or not. Another style available in the larger sizes is the wound rotor induction motor with outside enclosed collector rings.

Finally a word should be said about control devices. Where such equipment would cause exposed sparking, it is obviously not recommended for use in explosive atmospheres. It becomes necessary (a) to locate the control in a separate, well ventilated room; (b) to inclose all contact-making parts in special inclosed cases; or (c) to immerse all contacts in oil and exercise great care to maintain the oil at the proper

level. These devices together with the proper motors. as previously described, should eliminate explosion hazards from motor sources.

Research and Economics Paramount

An Interview with

RICHARD H. GRIMM

President, American Commercial Alcohol Corp.

In its editorial policy CHEMICAL MARKETS is committed to the consideration and promotion of the business or economic side of the chemical industry. How, then, we asked Mr. Grimm, was the recent merger into one of the most important factors in alcohol production in this country, of which he is president, affected either by economics or research ?

"That's an easy one,' he shot back, "there were three plants located in as many different parts of the country, each strategically located because of easy accessibility to its raw material sources, each capably managed and successful, enjoying prestige and good will developed over a period of years of conscientious and faithful service to the alcohol consuming industries. Naturally, because of their location, their personnel, their experience and associations, each had certain advantages over the other. The thought of combining the facilities and pooling the interests of all three, was, therefore, a logical one."

"But specifically," we interrupted, "how does this benefit the many industries you serve. ?"

"Taking up the economic side," answered Mr. Grimm, "our company with facilities for the production of alcohol from both molasses and grain, with easy transportation to the Philadelphia and New Orleans plants, and with its Pekin, Ill. plant located in the heart of the corn belt and ideally situated for producing grain alcohol, it is natural that economies in production will be effected and service to industry improved by virtue of this combination.

"Naturally, our distributing facilities, which include most of the principal cities—enhance our ability to serve our clientele promptly and efficiently. To illustrate this I will give you a list of our distributors: Baltimore, Philadelphia, New York, Boston, Buffalo, Cleveland, Toledo, Cincinnati, Detroit, Grand Rapids, Indianapolis, St. Paul, Chicago, St. Louis, Kansas City and New Orleans.

"As to the part research plays in this," he said, "this is easily illustrated by the company's exclusive use of formulas and processes developed in the laboratory of the American Distilling Company, of which I was president. I mention this here because I am so familiar with this situation, resulting as it did in the production of the grade of alcohol known as "Everclear" brand.

"At considerable expense, the processes by which this is produced at Pekin are being introduced into our Philadelphia and New Orleans plants. Here, research will have made a valuable manufacturing development available to a greater part of industry through this merger than would have been possible otherwise, or at least for some time. Similarly, the former Berg and Mayer plants through their research work have developed methods of control, processes, designed or adapted apparatus best suited to our work, which can be generally adopted in the three plants with the resulting economies and standardization which will naturally follow."

"Another feature of a consolidation of this kind," he said, "and one which is of tremendous importance, is the effect of stabilizing conditions in an industry where such influence is not unwelcome. There is ample precedent in industry in other lines to prove the benefit of the combination of smaller units into a large factor."

Asked whether the new company would remain in the control of the principals of its predecessors, Mr. Grimm answered emphatically that it would. The management, he said, would continue with the officers of the former companies and the sale and distribution of their products will be through the same personnel as previously, but with the increased facilities that the combination makes possible. To make this point clear, Mr Grimm further stated, "The new company came about through an entirely mutual arrangement and understanding of the principals of the three predecessor companies. Manifestly, pooling the interests of the three concerns results in improved public service and increases the possibility of more reasonable return on the invested capital.

"The history of the constituent companies," he continued, "with the combined producing capacity of approximately 25,000, 000 gallons yearly, bears out our feeling that no organization presents a more complete line-up for meeting satisfactorily the needs of the consumers of alcohol in every industry and profession."

That research will be a continuous and valuable factor in the conduct of the affairs of the company, is assured. Mr. Grimm was explicit on this point. "We have adopted this as a fundamental policy," he said, "my associates and I feel that this is not only a beneficial policy for the company itself, but that it is a favorable influence for our customers. In other words, while there is apparently sufficient supporting evidence of the quality of the product of the firm, it shall be our policy not no to relax for a moment in an effort to make every improvement that science—again supported by research—might possibly dictate.

Chilian Nitrate Output Increases

Increased output and export of nitrate of soda in Chile the first quarter of this year are said to indicate that country's recovery in its chief industry, reports Commercial Attache at Santiago, Ralph H. Ackerman.

Number of operating plants making nitrate of soda in Chile also show a gain to 63 from 28 in operation last year's quarter. They produced 733,220 metric tons of nitrate compared with 243,627 tons the first quarter of 1927. This output is higher than the 606,518 tons made in 1925 when 88 plants were in operation.

Exports for the quarter reached the high total of 860,138 metric tons compared with 531,591 tons the same period of 1927, 669,925 tons in 1926 and 754,937 tons in 1925. Exports were greater than the output this year, so stocks must have been drawn upon.

World stock of nitrate of soda, according to Chilean estimates on March 31, was 1,154,500 tons as compared with 1,371,400 at the close of March, 1927. The announcement by the Chilean Government that no reduction in the export duty would be made during the fiscal year 1928-29 has improved the demand materially and it is reported that heavy commitments were made during the month of April.

World's Consumption of Chilean Nitrate of Soda

(In long tons)

	1926-27	1927-28
France	237,000	285,000
Belgium	86,000	155,000
Holland	88,000	124,000
Central Europe	99,000	236,000
Scandinavia	49,000	63,000
Spain and Portugal	108,000	110,000
Italy	45,000	50,000
United Kingdom	51,000	77,000
Egypt	155,000	175,000
United States of America	680,000	1,100,000
Other countries	158,000	175,000
Total	1,756,000	2,540,000

A plant with an annual production of 4,000 tons of ammonium sulfate has been put in operation in Sweden by the Stockholms Superfosfatfabriks Aktiebolag. The company is going to extend this plant to a total capacity of 8,000 to 9,000 tons a year. The total building costs are estimated at two million kroner.

Sodium Phosphate

Mono-basic, Di-basic
Tri-basic

Sulphur Chloride

In Bottles, Jugs
Drums and Tank Cars

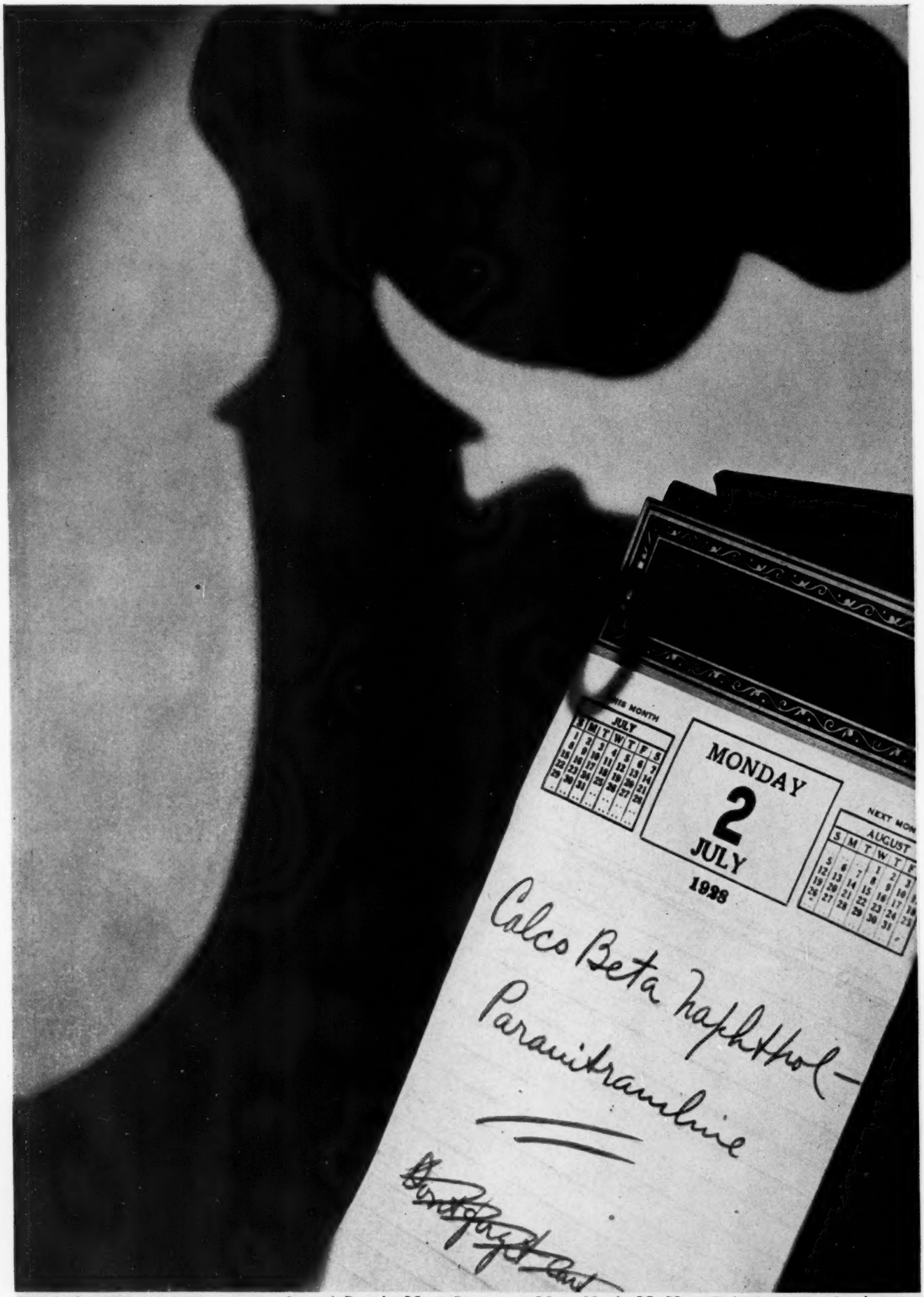
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Chemical Facts and Figures

A. C. S. Institute of Chemistry Announces It's Complete Program

First Week of Evanston Meeting Will be Devoted to Agriculture and Chemistry—Parr Will Talk on Low Temperature Carbonization; Brooks on Petroleum Hydrocarbons and Redman on Economic Research—Chemical Warfare to Feature Final Week.

Institute of Chemistry, American Chemical Society, announces the following program for its second annual session at Northwestern University, Evanston, Ill., July 23 to August 18, 1928.

Speakers for the week of July 23 include: S. W. Parr, president, American Chemical Society, low temperature carbonization; C. A. Browne, Bureau of Chemistry and Soils, agricultural chemistry; James Slayter, Kalkite Co., products from corn cobs and other farm wastes; Harrison E. Howe, editor, *Industrial Engineering and Chemistry*, new competition as applied to agriculture; H. E. Barnard, Indianapolis, world's future food supply; W. E. Emley, Bureau of Standards, Washington, D. C., industrial utilization of farm wastes; G. J. Esselen, Jr., Skinner, Sherman & Esselen, Inc., Boston, Mass., cellulose in modern industry; H. T. Herrick, Department of Agriculture, Washington, D. C., conversion of corn sugar by means of molds; H. G. Knight, chief, Bureau of Chemistry and Soils, Washington, D. C., new developments of agricultural chemistry; C. S. Miner, Miner Laboratories, Chicago, Ill., furfural; A. S. Richardson, Proctor & Gamble Co., Ivorydale, Ohio, hydrogenation; G. A. Richter, Brown Co., Berlin, N. H., preparation of pure cellulose from wood; G. M. Rommel, New York, farm wastes with special reference to cellulose; H. J. Sconce, Cornstalk Products Co., 42 Broadway, New York, the preparation of useful products from farm wastes; O. R. Sweeney, Iowa State College, utilization of cornstalks; A. W. Schorger, Burgess Laboratories, Madison, Wis., chemistry and utilization of cellulose; R. W. Thatcher, president, Massachusetts Agricultural College, future possibilities of chemistry in the development of markets for agricultural products; R. L. Stern, Hercules Powder Co., cellulose; Van L. Bohnson, du Pont Rayon Co., the present status of the use of cellulose in making artificial fibres; L. F. Hawley, Forest Products Laboratories, cellulose.

Speakers for week of July 30 includes: R. E. Burk, Western Reserve University, expert on catalysis, studies by modern physical-chemical methods; A. S. Richardson, Proctor & Gamble Co., hydrogenation of vegetable oils; C. J. Brockman, electro-organic chemistry; V. R. Kokatnur, consulting chemist, New York, organic peroxides; Lloyd Van Doren, Mayer, Warfield & Watson, New York, chemical patent practice; R. T. K. Cornwell, University of Pittsburgh, organic microanalysis; Thomas Midgley, Jr., recent developments in synthetic rubber.; C C. Hubbard, National Association Institute of Dyeing & Cleaning, Washington, D. C., modern developments in dry cleaning; H. N. Alyea, Princeton, N. J., mechanism of inhibition of oxidation; W. L. Semon B. F. Goodrich Co. antioxidants; H. A. Curtis Yale University, the cruise of "Lutzow," and the world nitrogen situation; W. R. Ham, head of the Physics Department, Pennsylvania State College, "Relation of Electron Emission and Catalysis;" Lloyd Van Doren, Mayer, Warfield, and Watson, New York, three lectures on various phases of patent law and procedure; David Klein, president, Wilson Laboratories, "The Chemistry of Glandular Products;" F. W Upson, head of the Chemistry Department, University of Nebraska, "The Chemistry of Methylene and the Present Status of the Conceptions of J. V. Nef.;" L. B. Sebrell, Goodyear Tire and Rubber Co. antioxidants.

Speakers for week of August 6 include: B. T. Brooks, petroleum hydrocarbons; Gustave Egloff, oil emulsions; W. F. Faragher, petroleum research; R. H. Kienle, General Electric Co., glyptal resins; L. V. Redman, phenol resins; M. J. Callahan, E. I. du Pont de Nemours & Co., lacquers; D. B. Keyes, University of Illinois, lacquers; Wm. Blum, Bureau of Standards, hazards of electroplating; C. E. K. Mees, the photographic image; M. X. Sullivan, U. S. Public Health Service, chemistry and health; C. B. Wood, Army Medical School, chemical sterilization of drinking water; Ellice McDonald, University of Pennsylvania, chemistry and life processes; J. A. Nieuwland, University of Notre Dame, "Acetylene Resins." W. J. Kelly, Resinous Products Co., Philadelphia, Pa., "Artificial Resins;" Robert Calvert, Van Schaack Chemical Works, Chicago, "Lacquers." J. G. Davidson, Carbon and Carbide Chemicals Corp., "Lacquer Solvents;" W. P. Yant, United States Bureau of Mines, Pittsburgh, "Newer Chemical Hazards." Mrs. Elizabeth M. Koch, University of Chicago, "The Antirachitic Provitamin Potency of Cholesterol and Ergosterol;" H. Gideon Wells, University of Chicago, "Immunology and Chemistry;" Paul Nicholas Leech, American Medical Association, "Chemical Quackery;" L. V. Redman, vice-president, Bakelite Corp., "The Economics of Research;" W. T. Bovie Northwestern University Medical School, the relation of chemistry and life; Dr. Oliver Kamm, Parke, Davis and Co., Detroit, "Recent Contributions to the Chemical Study of the Endocrine Glands with Special Reference to the Pituitary Gland."

Speakers for week of August 13 include: A. M. Buswell, University of Illinois, head of the Illinois Water Survey, "Water Supplies;" W. D. Hatfield, Decatur Sanitary District, "Sanitation;" H. E. Jordan, Indianapolis Water Co., "Essential Qualities in a Water Supply." C. Robert Moulton, Institute of American Meat Packers, A Study of Food Fads;" E. N. Wentworth, Armour's Livestock Bureau, Recent Advances in Animal Nutrition;" W. D. Richardson, chief chemist Swift & Co., "Chemistry in the Packing Industry;" John Arthur Wilson, A. F. Gallun and Sons, Research in Leather Chemistry;" R. H. Bogue, Bureau of Standards, What the Average Chemist Should Know about Cement;" J. C. Hostetter, Corning Glass Works, Chemistry in Manufacturing Electric Light Bulbs;" F. H. Riddle, Champion Porcelain Co., Recent Developments in Refractories, with Special Emphasis on Those from Sillimanite" F. B. Wade, Shortridge High School, Indianapolis, Man-Made Gems: Their History, Chemistry, Manufacture, Cutting, and Identification;" C. W. Balke, Fansteel Products Co., "Metals of the Tungsten and Tantalum Groups;" F. B. Foley, Midvale Co., "Alloys for High Pressures and Temperatures;" H. Edmund Bullis, executive secretary National Association for Chemical Defense, "The Reaction of the General Public to the Use of Gas in Warfare;" B. C. Goss, Lake Erie Chemical Co., "Peacetime Uses of Chemical Warfare Weapons;" H. L. Gilchrist, Medical Research Specialist, United States Army, "Medical Aspects of Gas Warfare;" J. E. Mills, chief chemist, Edgewood Arsenal, "General Discussion on Chemical Warfare;" Paul B. Malone, commanding general, Sixth Corps Area, U. S. Army, "The Trend of National Defense;" W. Lee Lewis, Institute of American Meat Packers, Chicago, "Science and Peace."

Gerald Wendt, recently appointed director, Battelle Memorial Institute, Columbus, Ohio, resigns from that position after completing plans for the laboratory and the award of the contracts. He has been appointed assistant to the president, Pennsylvania State College.

Personal and Personnel

Arthur K. Doolittle, formerly plant engineer, lacquer department, Sherwin-Williams Co., Chicago, is now in charge of all lacquer technical work for the company in the East. His headquarters will be at the Newark plant.

Walter C. Teagle, president, Standard Oil Co. of N. J., becomes a member of the Advisory Board, Second International Conference on Bituminous Coal, to be held at Carnegie Institute of Technology, week of Nov. 19.

Ralph Renouf, Renouf & Co., Inc., New York, sails for Europe June 25, on S. S. "Baltic" where he will attend to business in connection with his company's London, Paris, and other European offices.

Walter S. Carpenter, Jr., vice-president and treasurer, E. I. du Pont de Nemours & Co., and George K. Morrow, president and director, Gold Dust Corp., are elected trustees, Equitable Trust Co.

Chester E. Andrews, for past eleven years, chief chemist in charge of production, The Selden Co., Pittsburgh, resigns from that position. His future plans are indefinite.

R. P. Heuer, formerly instructor in chemical engineering, University of Pennsylvania, is appointed director of research, General Refractories Co., Philadelphia.

H. L. Cupples, formerly associate chemist, Fixed Nitrogen Research Laboratory, Washington, D. C., joins staff of General Motors Corp., Detroit.

Dr. S. M. Hermann, president, Apex Chemical Co., New York, sails for Europe June 30, for a combined business and pleasure trip of two months.

Albert Morgan, division sales manager, Eagle-Picher Lead Co., New York, sails on the S. S. "Berengaria", for a month's vacation abroad.

Frederick T. Bedford, president, Penick & Ford, Ltd., Inc., resigns from the board of directors of U. S. Industrial Alcohol Corp.

O. A. Hasse, executive vice-president, Glidden Co., resigns to become vice-president and director, Valentine & Co., Inc.

Foster D. Snell, consulting chemist, announces removal of his office from Pratt Institute to 130 Clinton St., Brooklyn.

W. C. McIndoe, formerly with Standard Oil Co., of California, is now production chemist, Celanese Corp. of America.

L. J. Blakey resigns as vice-president and treasurer, Standard Wholesale Phosphate & Acid Works, Inc., Baltimore.

Dr. Charles Platt, former chief chemist in private laboratories of Thomas A. Edison, dies June 15, aged 59.

August Kochs, president, Victor Chemical Works, Chicago, sails for Europe to be gone two months.

Calcium Biphosphate Now Classed As Fine Chemical in Great Britain

What is a "fine" chemical and why? Since the introduction in Great Britain in 1921 of the Safeguarding of Industries Act, calcium biphosphate has been variously held to be, first, a "fine" chemical, then, for a number of years, a "heavy" chemical, and most recently, on May 25, by decision of Referee A. A. Hudson, K. C., once more a "fine" chemical. Were it merely a question of terminology, it is presumed that nobody would care much, for "a rose, by any other name . . . " Unfortunately, when calcium biphosphate is a "fine" chemical in England, it is subject to a 33⅓ per cent. import duty, which is not the case when it is a "heavy" chemical.

When the Safeguarding of Industries Act became law in Great Britain in 1921, the Board of Trade compiled a list of dutiable articles, which included "fine" chemicals. This list contained some 6,000 chemical products. Provision was made for interested parties, whether makers or importers, who considered that any chemical had been improperly excluded from, or included in this list, to have the matter submitted for decision by a referee appointed under the Act for that particular purpose.

For the first two years there was considerable important litigation concerning various chemicals, both included on and excluded from this list. Most of them centered about the interpretation of the term "fine" chemical. Cyril Atkinson, K. C., was then Referee. He established certain precedents upon which he came to his decisions as to whether a substance was a "fine" chemical or not. These general principles were the trade use of the particular name, purity, method of manufacture, method of marketing, price, and the use to which the substance was put. He had decided that cream of tartar was "a commercial product mainly used for industrial purposes" and therefore *prima facie* was not a fine chemical. The Board of Trade therefore took the view that as calcium biphosphate was a similar article, it also should come out of the list, and accordingly in 1922 it was taken out.

In March 1927, a complaint was lodged with the Board of Trade by A. Boake, Roberts & Co., Ltd., and Albright & Wilson, Ltd., two large British manufacturers of calcium biphosphate, that that chemical had been improperly excluded from the list of dutiable articles and that it should be included as a "fine" chemical. This was opposed by Charles Page & Co., Ltd., importers of this material made by Victor Chemical Works, Inc., Chicago, and by David T. Boyd & Co., Ltd., agents for Phosphate Products Corp., Richmond, Va. The opposition was also joined by the British Chemical and Dyestuffs Traders' Association, Ltd.

Meanwhile, Referee Atkinson had resigned and when hearings began in January, they were held before a new Referee, A. A. Hudson, K. C. Again there was much evidence presented pro and con regarding the status as a "fine" chemical of calcium biphosphate. But when hearings were concluded on May 25, Referee Hudson showed an un-British disregard for precedent. Instead of deferring decision and giving it later in the form of logical findings as to whether the product was or was not entitled to be called a "fine" chemical, he announced the decision at once. It was to the effect that "calcium biphosphate was to be included in the list of articles chargeable with Key Industry Duty." No grounds in support of the decision were given and there was no mention of the fact that it was to be included in the list because it is considered to be a "fine" chemical. Much disatisfaction has been expressed regarding the decision and the Referee's procedure in arriving at it, but the duty went into effect as of June 4, and nothing short of a specific act of Parliament can change it.

Field work in connection with the cost-of-production investigation covering potash is ordered by the United States Tariff Commission. The Commission has ordered Frank Talbot and W. J. Didicott, two of its specialists, to conduct a cost survey in New York City.

National Fertilizer Ass'n Elects Robins at Point Comfort Convention

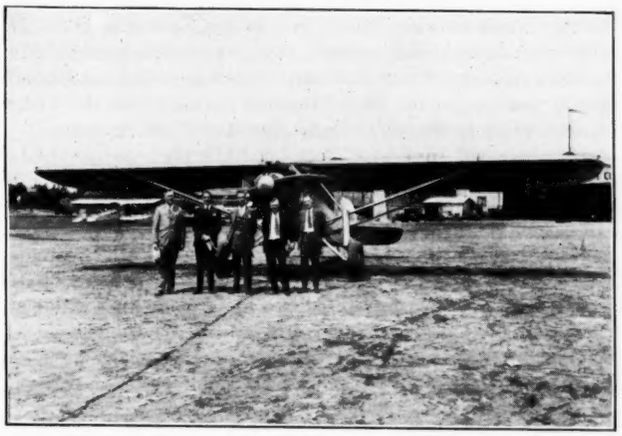
National Fertilizer Association holds fourth annual convention at Chamberlin-Vanderbilt Hotel. Old Point Comfort, Va., June 11-14. Officers for the coming year were elected as follows: president, E. L. Robins, Meridian Fertilizer Factory, Meridian, Miss.; vice-president, L. W. Rowell, fertilizer department, Swift & Co.; secretary-treasurer, Charles J. Brand, Washington.

Among those who spoke during the convention were Dr. Tait Butler, editor, Progressive Farmer, on "Using Soil Fertility"; Ernest E. Dallis, on "Selling the Industry to the World"; H. R. Smalley, director, Northern division, Soil Improvement Committee, on "Glimpses from the Consumers' Survey"; J. C. Pridmore, director, Southern division, Soil Improvement Committee, on "Progress in Fertilizer Utilization"; A. D. Strobhar, president, Southern Fertilizer & Chemical Co., on "Sound Business Practices"; Dr. Sidney B. Haskell, Synthetic Nitrogen Products Corp., "Climatic Conditions and Fertilizer Use"; Dr. F. G. Cottrell, U. S. Dept. of Agriculture, "Present and Future in Nitrogen Fixation"; James A. Emery, general counsel, National Association of Manufacturers, on "Muscle Shoals"; C. J. Ramsburg, vice-president, Koppers Co., "Nitrogen Situation in the United States"; and Dr. Hugh P. Baker, Chamber of Commerce of the United States, "Industry Progress Through Organization."

Monsanto's New Acid Station

Monsanto Chemical Works establishes new carboy acid filling station at Kansas City, Mo. Four executives of the company flew from St. Louis to attend the formal opening.

The plane left Lambert field in St. Louis at 10.10 A. M., arriving in Kansas City at 12.30 P. M. The return trip was accomplished from 5.00 to 7.40 P. M.



Those who made the trip were, from left to right, L. F. Nickell, assistant vice president in charge of the Monsanto, Illinois, Works; Edgar M. Queeny, president; U. H. Deffry, Monsanto's Acid Sales Division, and H. T. Gammon, assistant superintendent, Monsanto, Illinois, Works. On the return trip, J. Byrne Severs, general representative, replaced H. T. Gammon who remained to supervise the operations.

Standing second from the right is Milt Gurdin, the pilot.

Naval Stores Marketing Corp., capitalized at $500,000, is organized at Jacksonville, Fla., June 10, by 60 representatives of naval stores operators of five Southern states. Officers are president, J. B. Davis; vice-president and general manager, Irving Post; Vice-presidents, J. A. G. Carson, Jr., J. M. Willis, and G. W. Varn; secretary and treasurer, A. L. Brogden. Purpose of corporation is to secure unanimous action by naval stores operators in the marketing of their products.

News of the Companies

Ansco-Agfa Corp., Binghamton, N. Y., plans construction of new $2,000,000 unit which when completed will provide production facilities four times greater than the present plant, which is now running to capacity. The new unit will be 200 feet wide, 700 feet long, and from two to eight stories high.

Charles Hardy, Inc., New York, is appointed sole United States sales agents for Ruetgerswerke Aktiengesellschaft, Charlottenburg, Germany. The latter company produces alpha methylnaphthalene, beta methylnaphthalene, fluorene, dipehnylenoxide, pseudo cumol, and meta xylenol.

H. J. Baker & Bro., New York, makes arrangements with U. S. Industrial Alcohol Co., to handle the potash produced by the latter company's plant at Curtis Bay, Baltimore. This production amounts to more than 12,000 tons per year.

Aluminum Co. of America begins manufacture of barium and zinc fluorides. Charles Hardy, Inc., New York, has been appointed distributing agents in the United States for these products.

Atlas Powder Co., through its subsidiary, Richards & Co., Inc., acquires entire outstanding stock of Duratex Corp., Newark, manufacturer of pyroxylin and rubber-coated fabrics.

Missouri-Kansas Zinc Corp. plans acquisition for adjoining properties in Waco field now held by Consolidated Gold Fields of S. A. and American Zinc & Lead Smelting Co.

Pennsylvania Salt Manufacturing Co. elects William M. Potts and John S. Jenks additional directors. Membership in the board has been increased from 7 to 9 members.

United States Gypsum Co. transfers mid-eastern district office from Chicago to Philadelphia. Company plans construction of complete gypsum factory in that city.

R. D. Mason Co., Pawtucket, R. I., established in 1805 and said to be oldest dyeing, bleaching, and mercerizing plant in country, is to close in near future.

E. I. du Pont de Nemours & Co's. service department is making survey of economic conditions to determine feasibility of adopting the five-day working week.

American Commercial Alcohol Corp., New York, appoints Hazard Advertising Corp., also of that city, to handle its advertising account.

Monsanto Chemical Works announces that vacations in its sales department will be concentrated between July 16 and July 30.

United Alkali Co.'s Golding Davies Vitriol Works at Windes, England, is destroyed by fire June 5, with estimated damage of £60,000.

National Aniline & Chemical Co., Inc., announces removal of its Philadelphia office and warehouse to 200 Front St., that city.

Champion Weed & Grass Killer Co. of Texas, Inc., plans establishment of plant at Shreveport, La.

Quaker Industrial Alcohol Corp., Philadelphia, changes name to Philadelphia Solvents Corp.

Paper Makers Chemical Corp. Formed by Merger of Eight Smaller Companies

Paper Makers Chemical Corp., capitalized at $8,000,000, is organized at Easton, Pa. New corporation in the result of reorganization and consolidation of interests of Paper Makers Chemical Co., Western Paper Makers Chemical Co., Vera Chemical Co., Vera Chemical Corp., Adirondack Mineral Co., Superior Sizing Co., John Regnier & Son Co., and Keystone Products Co. These companies which have heretofore been separate units will now be operated under one management and the resultant corporation is said to be the largest of its kind in the world.

This new company also announces control and management of the following subsidiary organizations: Superior Pine Products Co., Suwannee Forests, Echols and Clinch counties, Ga., Vera Chemical Co. of Canada, Ltd., Burlington, Ont., Canada, Georiga-Louisiana Corp., Atlanta, Ga. and New Orleans, La., and the Empire Size & Chemical Corp., Albany, N. Y.

Corporation will have plants in Kalamazoo, Mich., Comstock, Mich., Holyoke, Mass., Boston, Mass., Stoneham, Mass., Pensacola, Fla., Jacksonville, Fla., Savannah, Ga., Atlanta, Ga., Marrero, La., Albany, N. Y., Carthage, N. Y., Lockport, N. Y., North Milwaukee, Wis., and Burlington, Ont.

The Pochins and Paper Makers Chemicals, Ltd. of Erith, Kent and Manchester, England, is also associated with the new corporation.

Vanadium Elects Miller Vice-pres.

Vanadium Corp. of America announces appointment of Ward A. Miller as vice-president. He was formerly New York sales manager of Midvale Co. of Philadelphia, in charge of the district comprising New York, New England and Canada.

N. Petinont, formerly general manager of sales, has been appointed assistant to the president; J. A. Miller, Jr., formerly assistant general manager of sales, has been named general manager of sales. Gustav Laub, now assistant secretary, has been appointed assistant general manager of sales, and P. J. Gibbons, assistant treasurer, will take on the additional duties of assistant secretary.

Jerome Strauss, formerly connected with the U. S. naval gun factory, at Washington in the capacity of material engineer, has been engaged for special work in engineering and metallurgical lines for Vanadium Corp.

Textile Color Card Association holds annual meeting April 5 at Hotel Astor, New York. Among the speakers were Richard F. Bach, associate in Industrial Arts, Metropolitan Museum of Art, who spoke on "Our Industrial Art—The Awakening"; Charles R. Richards, director, Division of Industrial Art, General Education Board, who spoke on "Color and Modern Art"; and Margaret Hayden Rorke, managing director, Textile Color Card Association, who spoke on the work of the association during the past year, the thirteenth of its existence

Canadian Chemical Association is organized at annual meeting of Dominion Chemical Convention at London, Ont., June 7. Dr. G. G. Whitby, professor of organic chemistry, McGill University, was elected president, and Alex McRae, Ottawa, secretary.

Darvas & Koranyi, Budapest, plans erection in Lajtaujfalu of first sulfur dioxide plans in Hungary. Company hopes to supply entire needs of Hungary, Roumania and Yugoslavia.

Synthetic nitrogen compounds will be produced at factory to be erected at Limburg, Holland. State will take almost entire production.

S. C. I. Annual Meeting Sept. 3-7

Society of Chemical Industry will hold its annual meeting in New York, September 3 to 7, with headquarters at the Chemists' Club. Registration is scheduled for ten o'clock on the opening day, to be followed by a greeting from the American section and informal luncheon at twelve-thirty. On September 4, the council meeting will be held at 10 A. M. followed by the presidential address at 11 o'clock. The technical session will start at two o'clock and will be devoted to reports on "Progress in Glass Manufacture and Equipment"; "Anti-Knock Motor Fuels"; and "Potash from Searles Lake." A reception and dance will be held in the evening. On September 5, an all-day industrial boat trip will be held, to be followed in the evening by the presentation of the Messel Medal Award and an address by the recipient, Robert A. Millikan.

Technical sessions will be held at ten and at two on September 6. Subjects for discussion include: "Electrodeposition of Rubber"; "Present Status of Refining and Cracking Petroleum"; "Natural Gas—A Chemical Raw Material"; "The Lacquer Industry"; and "Manufacture and Use of Rare Metals." The annual banquet will be held at seven o'clock. The closing day will be devoted to an excursion up the Hudson with a stop a West Point.

Gulf Refining Wins Patent Suit

United States Circuit Court of Appeals for the Fifth Circuit on May 23, 1928, renders a decision in favor of the Gulf Refining Co., appellee, in the suit brought against it by the Texas Co., appellant, for alleged infringement of Patent No. 1424574, for a process involving the use of aluminum chloride and refining petroleum. This ends fifteen years of litigation over the aluminum chloride process. The patent was issued August 1 1922, to the Gulf Refining Co., as assignee of A. M. McAfee. The Circuit Court's decision in brief is that the Texas Co. must fail in its claim to beneficial ownership of the patent, because of Mr. McAfee's employment by it at one time, since it did not set this forth in years of patent office litigation during which the Texas Co. claimed its employee, Gray, as inventor of the process.

In case of U. S. Industrial Chemical Co. vs. the Theroz Co. Circuit Court of Appeals, Fourth Circuit, holds that Patents 1262267 and 1262268 are valid and infringed on grounds that even though patentee discovered processes of making artificial fuel, popularly known as solid alcohol, without knowing chemical theory or natural laws underlying them, it was sufficient if he furnished specifications and claims definite enough to guide those skilled in the art to enable them to produce patented articles.

Imperial Chemical Industries, Ltd., is said to have already secured control of half of the copper and brass manufacturing capacity of Great Britain, with further purchases being negotiated. In this regard, Sir Alfred Mond, chairman, said in his annual report, "Since close of this financial year we have acquired very important interests with a view to creation of a metal merger of far-reaching value to this company."

Atlantic Coal Tar Distillates Co. $1,500,000 plant at Elizabeth, N. J., is seized by prohibition agents, under Col. Arthur J. Hanlon, New Jersey Prohibition Enforcement Administrator, June 25. David Weiner, manager of the company, announced that he would apply for an injunction restraining the Federal men from further interfering with his business and that he would start a personal damage suit for $500,000 against Col. Hanlon.

Compressed Gas Manufacturers' Association holds annual meeting at Seaview Golf Club, Absecon, N. J., June 21-23.

Hulett Heads Division of Chemistry, Nat'l Research Council for 1928-29

Personnel of the Division of Chemistry and Chemical Technology, National Research Council for 1928-29 will be as follows: chairman: George A. Hulett, Princeton University; vice-chairman: W. C. Geer, New Rochelle, N. Y.; Roger Adams, University of Illinois; Marston T. Bogert, Columbia University; R. M. Burns, Bell Telephone Laboratories; W. M. Clark, Johns Hopkins Medical School; James B. Conant, Harvard University; William J. Hale, Dow Chemical Co.; Harry N. Holmes, Oberlin College; Charles A. Kraus, Brown University; S. C. Lind, University of Minnesota; Edward Mack Jr., Ohio State University; H. S. Miner, Welsbach Co.; James F. Norris, Massachusetts Institute of Technology; Charles L. Parsons, Washington, D. C.; C. L. Reese, E. I. du Pont de Nemours & Co.; C. M. A. Stine, E. I. du Pont de Nemours & Co.; W. T. Taggart, University of Pennsylvania; E. W. Washburn, Bureau of Standards; Frank C. Whitmore, Northwestern University.

Preliminary Gypsum Hearing Held

Hearing on preliminary injunction in suit of United States Gypsum Co. vs. National Gypsum Co., is held in Federal Court, Buffalo, June 4. In bill of complaint United States Gypsum Co. asks for damages resulting from manufacture by National Gypsum Co. of wallboard alleged to infringe Gustafson patent 1,665,168 and for an injunction restraining defendant from further manufacture of this product.

Godfrey L. Cabot, Inc., Boston, plans construction of new carbon black plant at Pampa, Gray County, Texas, to cost $450,000, with daily capacity of 30,000 pounds. Gas supply will come from residue of casing-head gasoline plant of Phillips Petroleum Co., eight miles from Pampa.

Commercial Solvents Corp. plans one-story addition to Peoria plant, to cost over $150,000 and to be used for production of formaldehyde. Company will also erect another unit designed for storage and distribution service, to cost in excess of $50,000.

Under the name of "Cifac" (Consorzio Italiano Fabbrichy Acido Citrico), all the makers of Italian citric acid form syndicate with offices in Messina. The syndicate has been fixed for five years and the arrangement may be renewed for an equal period.

Pictou Chemical Co., Ltd., subsidiary of Sodalumina Chemical Corp., of Canada, Ltd., is to be established near New Glasgow, N. S. This plant is to be the first of ten units to be erected by Ottawa capitalists, according to reports.

United States Hoffman Machinery Corp. establishes an industrial fellowship in the Mellon Institute of Industrial Research for making a thorough study of the effects of pressing on textile materials.

American section, Society of Chemical Industry elects following officers: Charles Lunn, chairman; Foster Dee Snell, secretary and F. C. R. Hemmingway, treasurer.

Pfaltz & Bauer, Inc., New York, increases its warehousing facilities by leasing a four-story building opposite their present offices and warehouse in that city.

National Lead Co. approves plan for consolidating the metal departments of United Lead Co. and subsidiaries with those of National Lead Co.

Edward G. Nellis Dies

Edward Granville Nellis, president, Chemical Catalogue Co., New York, dies at his summer home in Quogue, L. I., June 26 aged 47. He was born in New York, June 30, 1881, and after attending Betts Academy, Stamford, Conn., and Yale University, he engaged in newspaper and advertising work for some years. He was with the F. W. Dodge Co., the *New York Times*, and with *Sweets*. In 1915, with S. W. Robinson and Ralph Reinhold, he founded the Chemical Catalgoue Co. He was a member of the National Arts' Club, the Chemists' Club, Advertisers' Club, American Chemical Society, and Society of Chemical Industry. He is survived by his wife, Louise Holt Forbes, and two daughters, Janet Forbes and Barbara Granville Nellis.



Henry Whitehill Chappell, retired manufacturing chemist, formerly head of Chappell Chemical Co. and for many years a director, General Chemical Co., dies at his home in New York, June 14, aged 71. He entered the chemical manufacturing business soon after his graduation from Massachusetts Institute of Technology in 1878. He was first associated with Mahler & Chappell, later changed to Chappell Chemical Co. This latter company in turn merged with several others in the formation of the General Chemical Co. In addition to being director of the General Chemical Co., he was Chairman of its Committee on Manufacturing. He retired from active participation in 1919.

H. Walker Wallace, vice-president, Virginia-Carolina Chemical Co., and formerly president, Georgia Chemical Co., dies at his home in Richmond, Va., June 22, aged 56. He was born at Augusta, Ga., educated at Cornell University, and began working as a bookkeeper with the Georgia company. From this position he advanced rapidly, so that when the company became a subsidiary of the Virginia-Carolina Chemical Co., he was president. With the advent of the larger company, he was shifted to Richmond, where he rose through various sales position to that of vice-president in charge of sales. He was recently elected to the executive committee of the National Fertilizer Association.

Public Service Commission, Albany, approves the following freight rates:

New York Central (east).—Acid (acetic) carload from Glenfield (ex Glenfield & Western Railroad) to New York and Brooklyn stations, Long Island City terminals, Kings Bridge, Morris Heights, High Bridge, Melrose Junction, Westchester avenue and Port Morris, 32c, reduction 2c per cwt. Effective July 23.

New York Central (east).—Acids (muriatic, nitrating and sulphuric) carload from New York city stations and New York (including lighterage) to Rochester stations 25c, reduction 3.5c per cwt. Effective July 15.

United States Tariff Commission holds preliminary hearing on cost of production investigation of whiting, June 20. Evidence was of conflicting nature and counsel for both American producers and J. H. Nicholas & Co., New York, sales agents for the Belgium material, were given until July 23 to file briefs.

Manitoba Canadian Industries, Ltd., Montreal, plans erection of $1,000,000 explosives plant near Winnipeg. Company controls six of the largest chemical companies of Canada and is affiliated with Imperial Chemical Industries, Ltd., Great Britain, and E. I. du Pont de Nemours & Co., Inc.

The Financial Markets

New Grasselli 100,000 Share Issue at $47 through National City Co.

New No Par Common Stock Offering Proves Popular—Exchange of Present $100 Par Common Provided for—Net Current Assets of Company at End of 1927 Amounted to $12,584,665.

Grasselli Chemical Co. offers, through the National City Co., a new issue of 100,000 shares of no par common stock at $47 a share. Proceeds are to be used for extension of productive facilities and correspondingly to increase working capital.

This financing follows an amendment to the corporation's charter providing for the exchange of one share of common stock of $100 par value into three shares without par value, the company planning to place the new shares on an annual dividend basis of $2.68 a share. With the addition of this offering of common, the company, which has no funded debt, will have outstanding $13,724,200 6 per cent. cumulative preferred stock of $100 par value and 747,122.8 shares of common. Application will be made to list both classes of stock on the New York Stock Exchange.

For the 22 years ended Dec. 31, 1927, surplus net profits applicable to the payment of dividends amounted to $53,204,044. Of this aggregate, the company has paid in cash dividends $6,361,194 to the preferred stockholders and $26,224,830 to the common stockholders, distributing in addition stock dividends in the principal amount of $11,227,493.

The consolidated balance sheet of the company, as of Dec. 31, 1927, adjusted to give effect to the subdivision of its common stock and this financing, shows current assets approximately five times current liabilities and net current assets of $12,584,665. Net tangible assets amount to $52,906,751, equivalent to more than $52 a share of common stock.

American Cyanamid Co. Authorizes Increase in Class B Common Stock

American Cyanamid Co. offers stockholders the right to subscribe to one new share of Class B common at $20 for every two shares of Class A and/or Class B common held. Present dividend rate of $1.60 a share will be continued on the new stock. Rights will accrue to stockholders of record July 16 and will expire August 6.

A special meeting of stockholders July 9 authorizes the increase of the authorized Class B common to 500,000 shares of $20 par, from 320,000.

Additional cash amounting to $3,297,000 to be obtained by the sale of this stock will be used for additions to the company's plants at Niagara Falls, Canada, and Warners, N. J., for new plants on property recently acquired at Linden, N. J., and for working capital required in the expanded business. The company's expansion program calls for a substantial increase in output of materials the company has been making for many years, demand for which is now in excess of production. New products will also be made, due to economical production of certain ray materials.

The construction program is now underway and all the additional plant facilities are expected to be in operation by the end of the next fiscal year, June 30, 1929. Expenditures in excess of the money now being raised will be met from present cash funds.

The large amount of additional power necessary for expanded operations at Niagara Falls has been fully provided for by contract with the Hydro-Electric Power Commission of Ontario, with the right to take the power at the Niagara plant until 1954.

Guaranty Trust Co. has underwritten any shares of new Class B stock not subscribed for by stockholders.

Capital of American Cyanamid Co. consists at present of $15,595,900 6% preferred, 65,943 shares of Class A common $5,000,000 5% bonds, and 263,772 shares of Class B, making a total of 329,715 common shares. This financing will increase the total amount of common stock outstanding to 494,572 shares.

Kuhlmann 1927 Profit 34,000,000 Francs

Etablissements Kuhlmann, reports for 1927 net profits 34,000,000 francs against 33,353,000 in 1926, dividend on 250-franc shares is maintained at 40 francs less taxes, 1,700,000 go to reserves and 2,000,000 francs are carried forward, as last year, but total mineral chemical production was 1,110,000 tons against 1,130,000.

Competition depressed prices of fertilizer output which at 446,000 tons was less than in the preceding year, while that of chemical products remained stationary at 505,000 tons, and that of dyes was 8,000 tons against 9,900. Inclusive of intermediary products and hydrosulfate, production of the Kuhlmann organic plant was 17,000 tons. The report announces marketing of 85 new coloring products representing 40 types.

Kuhlmann has acquired interests in several new directions. With the Mines de Markes (collieries) it has formed a company for manufacture of synthetic ammonia from coke-gas and with the Mines de Courrieres (capital 8,000,000 francs) for industrial production of synthetic alcohol, presumably after the German patents. It is also interested in a Belgian plant for synthetic ammonia. Another enterprise in which it is associated with two big textile firms is the Societe des Textiles Chimiques du Nord et de l'Est for manufacture of artificial silk. Finally it has taken up a half interest with the all-powerful Gillet group (viscose) in another rayon enterprise.

The company's capital is now 200,000,000 francs, with 145,000,000 reserves. It has 99,000,000 francs outstanding in bonds and 103,000,000 owing to third parties. Its property is valued at 170,000,000 and investments at 84,000,000. Realizable assets figure at 257,000,000 and liquid assets at 70,000,000.

Stockholders of Aluminium Limited have been offered rights to subscribe for new stock at $25 a share to the extent of one share for each six held. Rights will be given to stockholders of record July 20. Payments may be made in full on or before September 1 or in instalments of $12.50 each Setpember and November 1. Aluminum Limited was recently segregated from Aluminium Co. of America.

Industrial Rayon Corp. reduces capitalization by exchange of one new share for each five shares now outstanding Stockholders of record June 12 were given right to subscribe to one share of new stock at $80 for each five shares of present stock held. Upon completion of readjustment there will be approximately 190,450 shares of new stock outstanding.

J. C. Francesconi & Co., New York, vegetable oils, is petitioned into bankruptcy with liabilities of $100,000 and assets of about $10,000.

Kleinschmidt Magnesia Co., New York, increases capital from $25,000 to $150,000.

International Salt 1927 Income Lower

International Salt Co., Scranton, reports for the year ended Dec. 31, 1927, consolidated net income of $327,020 after expenses, taxes, depreciation and depletion, equivalent to $5.38 a share on the 60,771 capital shares ($100 par) outstanding. This compares with $507,338 or $8.34 a share in the preceding year.

Consolidated income account for the year compares:

	1927	1926	1925
Total inc.*	$639,508	$834,495	$939,298
Exp. tax., etc.	32,117	45,313	47,835
Bond int., etc.	280,262	281,000	315,495
Balance	$327,129	$508,182	$575,968
App. to min. int.	109	844	4,860
Net inc.	$327,020	$507,338	$571,108
Dividends	364,627	364,627	364,627
Deficit	$37,607	$142,711	$206,481

Societa Sarda di Concinii e Prodotti Chimici increases capital from 8,000,000 to 10,000,000 lire; Societa Veneta Fertilizzanti e Prodotti Chimici from 20,000,000 to 40,000,000 lire; and Societa Meridionale Ammonia Anonima from 10,000,000 to 40,000,000 lire. All are members of the Montecatini group of Italy. Societa Sarda produces nitric acid, sulfuric acid and superphosphates; Societa Veneta, sulfuric acid, superphosphates and sodium bisulfate; and Societa Meridionale, synthetic ammonia.

American Cyanamid Co. holds meeting July 9 to approve increase in authorized Class B common stock from 320,000 shares of $20 par value to 500,000 shares of $20 per value. Each common stockholder of record July 16 shall be entitled to subscribe for one new share of Class B common at $20 a share for each two shares of Class A or Class B common then held.

Societe Francasie de la Viscose reports net profits for 1927 amounting to 11,384,126 francs as compared with 11,223,686 francs for the previous year, an increase of 160,440 francs. No dividend has as yet been announced by the company. The previous distribution of dividends consisted of 570 francs on the ordinary shares and 921 francs on the founders' shares.

Pyrene Manufacturing Co. reports for 1927 profit after taxes of $191,539, equivalent to 87 cents a share on 219,470 shares of capital stock. This compares with $348,411 or $2.38 a share on 146,316 shares in 1926. Profit in 1927 included $38,218 derived from sale of land.

Standard Wholesale Phosphate & Acid Works, Inc., declares an extra dividend of one per cent. and regular quarterly dividend of 1¼ per cent. on common stock. Profits from fiscal year ended May 31, amounted to approximately $720,000.

Harbison-Walker Refractories Co. proposes, Sept. 17, to change par value of common from $100 to no par and the issuance on approval, of four shares of proposed no par stock for each $100 share than held.

Rio Tinto Ltd. appoints Guaranty Trust Co. of New York as transfer agent for American depository receipts of ordinary bearer and five per cent. cumulative preference bearer shares.

United States Asbestos Co. reports sales for April 1928, of $291,000 which compares with sales of $251,000 in April 1927.

Society of Chemical Industry, Basle, declares dividend of 15 per cent.

Wall St. and Chemicals

The outstanding financial event of June in chemical circles is the split up of Grasselli common and the sale of a block to the National City Co., forecasting listing on the N. Y. Stock Exchange. Motive hunters, according to their dispositions, have various ready explanations. Frank and friendly ones, who we suspect are about correct, note that the family management is in the third successful generation and that the new financial policy is sound, in line with modern methods, and offers distinct personal advantages to the chief stock holders. Reasons enough.

The shaking down—or shaking out—of the stock market during the first three weeks of June treated the various Wall Street favorites among the chemical group almost as kindly as it did their cousins the oils. Neither suffered the losses sustained in other groups. While chemicals have not come back quite so quickly as the oils, which are generally believed to be in a position to score heavy advances on larger earnings this summer, nevertheless the net loss during the hectic month of June has not been serious. Allied even enters July 6 up over June and during the month chalked up a new high at 182¼.

Speaking of Allied: One of the famous old dye men who is credited with having, in pre-war days, carried the black dye business of the Philadelphia district in his vest pocket recently met an old crony on the broadwalk at Atlantic City and bitterly confessed himself to be "the prize blankity blank idiot of the entire chemical industry of the world." His connections at Buffalo had brought him a nice block of the National Aniline stock at the time that consolidation was built up, and doubting the future under a management that did not know beta naphthol from benzidene, he sold out at the time National was merged in Allied. He had just dropped into the broker's office at the Ambassador and had figured out that his holdings were that morning worth $1,117,693.18 more than he had sold them for.

Despite the resumption of preferred dividends by International Agricultural Chemical—upon which happy event John J. Watson was covered with compliments down at the Norfolk meeting—which was tangible evidence supporting the favorable reports of fertilizer sales this spring, none of the stocks in this group has lived up to the expected rise. Even I A C common lost 2¼ points during the month and A A C was down seven for the month.

The morning after Dr. Herty's little foreign loan luncheon at the Chemists' Club one of those present asked his favorite broker if he had heard any rumors of the sale of a goodly issue of I. G. common stock in America, said stock to be listed on the big board. "No," was the answer, "but say, wouldn't that be a dandy to dabble in." No wonder so many big bankers cast sheep's eyes at foreign industrial loans.

International Printing Ink Corp. declares an initial dividend of 43 2-3 cents on common for period from June 1 to August 1, placing stock on $2.50 annual basis, and initial quarterly dividend of $1.50 on 6% preferred, both payable August 1 to stock of record July 16.

During June new lows for this year were scored by Air Reduction at 59 off 1½; U. S. I., 102 1-8, off ½, and both the sulfur companies, Freeport selling down to 63¼, off 2⅜ and Texas at 62⅛, or 6⅜ lower than previously this year.

"Off again, on again, gone again" seems to be the motto adopted by the directors of American Linseed, Postum, and Golddust.

Penick & Ford Reduce Funded Debt 45 Per Cent. By Retiring Bonds

In the past 18 months, Penick & Ford, Ltd., Inc., have reduced their funded debt approximately 45%, according to the Wall St. Journal. Retirement of $1,000,000 of 6½% first mortgage bonds thus far in 1928, plus $594,100 retired last year, has brought outstanding bonds of that issue to $1,952,700 from the $3,546,800 outstanding on December 31, 1926.

Retirement of the bonds was effected at 105, which involved the appropriation of approximately $1,673,800, or a premium of about $79,700. Annual interest charges on the funded debt are thus cut approximately $103,600. Interest charges for 1928 on $2,952,700 6½% bonds outstanding at the beginning of the year would have totaled $191,925. Retirement of $1,000,000 of the issue on June 1 reduced 1928 interest charges $32,500.

Substantial reduction in the funded debt of Penick & Ford has been accomplished without any new financing. Strong financial position of the company is seen by the condition at the beginning of the year, when cash, call loans and Liberty bonds on hand totaled $2,030,914, compared with total current liabilities of $874,817.

United Molasses Co., Ltd., London, increases capital from £1,500,000 to £3,000,000. Company recently purchased controlling interest in Dunbar Molasses Corp., New York.

Lagunas Nitrate Co., Ltd., London, reports sales from July, 1927 to June 1928 of 3,033,308 metric tons. Company carried on no mining operations during that year.

Pennsylvania Salt Mfg. Co. declares regular quarterly dividend of $1.25, payable July 14 to stock of record June 30.

Aluminum Co. of America declares regular quarterly dividend of 1½% on preferred, payable July 1 to stock of record June 15.

Glidden Co. Sales Show Increase

Sales of the Glidden Co., Cleveland, for five months ended March 31, 1928, show an increase of more than $100,000 a month over same period a year ago, reports "The Wall St. Journal." The net profit, after taxes and charges, for the five months shows preferred dividend requirements for the full year earned by a considerable margin. This means that all earnings for the remaining seven months of the fiscal year which ends October 31 will be applicable to the common stock.

Company is constantly improving its strong financial position, and plans are under way for retirement of subsidiary company bonds

On March 31, 1928, there was outstanding $7,192,200 of 7% preferred, on which dividends for the year would amount to $503,454.

Silica Gel Corp.'s additional 465,050 shares of no par common stock are authorized for listing on Baltimore Stock Exchange, with authority to add 120,000 shares upon official notice that they have been issued. Stockholders have ratified agreement, dated Jan. 14, 1928, extending original voting trust agreement to Jan. 13, 1938.

Lee, Higginson & Co., Chicago, have disposed at private sale of the common stock of U. S. Gypsum Co. which they recently acquired from the estate of Ralph Van Vechten. About 15,000 shares were involved in the transaction.

New Jersey Zinc Co. declares regular quarterly dividend of $2 payable August 10 to stock of record July 20. Three months ago the company declared an extra of $2 in addition to regular of $2.

Will & Baumer Candle Co., Inc., declares the regular quarterly dividend of $2 on the preferred, payable July 2 to stock of record June 20.

The Industry's Bonds

1928 June 30 High	1928 June 30 Low	1928 High	1928 Low	1927 High	1927 Low	Sales In June	Sales Since Jan. 1928	ISSUE	Date Due	Int. %	Int. Period	Orig. (1) Offering $
								NEW YORK STOCK EXCHANGE				
...	...	...	...	105	99	266	1,541	Am. Agri Chem	1941	7½	F. A.	30,000
100⅛	100⅛	102⅛	99⅛	103⅛	100⅛	263	1,551	Am. Smelt & Refin "A" 5%	1947	5	A. O.	...
...	...	109⅛	106⅛	108⅛	107⅛	51	512	Am. Smelt & Refin "B" 6%	1947	6	A. O.	...
104⅛	105	106⅛	104	105⅛	103⅛	743		Anaconda Copper Mng	1953	6	F. A.	100,000
121⅛	120⅛	132⅛	110⅛	116⅛	106⅛	4,067		Anaconda Copper Mng 7%	1938	7	F. A.	50,000
103⅛	103⅛	105⅛	96⅛	97	87	548	3,031	Anglo Chilean	1945	7	M. N.	16,500
102	102	103⅛	100⅛	103⅛	100⅛	40	449	Atlantic Refin	1937	5	J. J.	15,000
...	...	...	...	102⅞	100⅛	56	163	By product Coke	1945	5½	M. N.	8,000
...	...	102⅛	100⅛	104⅛	101⅛	23	92	Corn Product Refin	1934	5	M. N.	10,000
...	...	117	107⅛	111⅛	106	128	1,210	General Asphalt	1939	6	A. O.	5,000
...	...	...	...	91⅛	81⅛	7	94	Int. Agric. Corp	1932	5	M. N.	30,000
...	...	...	...	...	...	32	222	Int. Agri. Corp. stamped, extended	1942	5	M. N.	7,020
...	...	133	113	133⅛	104	157	2,459	Liq. Carbonic Corp	1941	6	F. A.	5,000
107⅛	107⅛	...	...	102	98⅛	257	3,395	Montecatini	1937	7		
...	...	...	...	95⅛	92⅛	123	629	Ex War	1937	7		
...	...	100⅛	105	115	113⅛	1	56	People's Gas & Coke	1943	6	A. O.	10,000
...	...	...	...	105⅛	101⅛	70	812	Refunding	1947	5	M. S.	40,000
102⅛	102⅛	104	102⅛	104⅛	101⅛	817	3,109	Standard Oil N. J	1946	5	F. A.	120,000
...	...	115⅛	101⅛	101⅛	98⅛	73	361	Tenn. Cop. and Chem	1941	6	A. O.	3,000
...	...	91⅛	90	95⅛	91	3	55	Va. Iron C. & C				
								NEW YORK CURB				
...	...	...	...	99⅛	95⅛		196	Agri. Mtge. Bk. of Col	46	1946	7	J.O.
...	...	...	...	99⅛	96	1	353	Agri. Mtge. Bk. of Col		1947	7	J.J. 15
...	...	103⅛	100⅛	105⅛	105	652	2,747	Alum. Co. of Am	52	1952	5	3,000
...	...	...	...	101⅛	99	...	609	American Cyan		1942	5	A. O. 5,000
...	...	...	...	102⅛	101⅛	145	726	Anaconda Cop		1929	6	J. J. 25,000
100	100	101⅛	99⅛	99⅛	95⅛	351	1,872	Koppers Gas and Coke		1947	5	J. D. 25,000
...	...	103⅛	100	103	98	20	123	Natl. Dist. Prod		1935	6½	J. D. 15 3,500
95⅛	95⅛	98⅛	94⅛	98	95⅛	343	2,960	Shawinigan W & P		1967	4½	
...	...	...	...	100⅛	100		30	Silica Gel		1952	6½	
99	98⅛	100	98⅛	99⅛	96	152	661	Solvay Am. Invest. Corp		1942	5	M. S. 15,000
99⅛	99⅛	101⅛	99⅛	100⅛	99	266	1,598	Swift & Co		1932	5	A. O. 50,000
...	...	...	...	99	90	...	202	U. S. Ind. Alc		1941	6½	M. N. ...
...	...	104	102⅛	103⅛	98⅛	26	266	Westvaco Chlorine Prod		1937	5½	M. S. 2,500
								BOSTON				
...	...	...	...	102⅛	101	30	238	Swift and Co		1944	5	J. J. 50,000
								CHICAGO				
...	...	...	...	103⅛	101⅛	33	70	Swift and Co		1944	5	J. J. 50,000
...	...	...	...	101⅛	99	...	...	Westvaco Chlorine Prod		1937	5½	M. S. 2,000

Devoe & Raynolds Extra Dividend

Devoe & Raynolds Co., Inc., declares an extra dividend of 20 cents on the no par A and B common, in addition to the regular quarterly dividends of 60 cents on the A and B common and $1.75 on the first and second preferred. On the 15,000 shares of Class A common issued May 15 an extra dividend of 10 cents and a dividend of 30 cents were declared. All the dividends are payable July 2 to stock of record June 26.

Stockholders of U. S. Industrial Alcohol Co., authorize issuance of 400,000 common shares of no par value, and exchange of 240,000 shares for 240,000 shares of present $100 par common, and approved changes in company's charter to give effect to the recapitalization.—(CHEMICAL MARKETS, April 1927.)

Corn Products Refining Co. declares an extra dividend of 50 cents and the regular quarterly of 50 cents on the common, both payable July 20 to stock of record July 2.

Regular quarterly dividend of $1.75 was also declared on the preferred payable July 14 to stock of record July 2.

International Agricultural Corp. resumes dividends on the prior preferred stock with the declaration of a dividend of $1.75, payable September 1 to stock of record August 15. The dividend was passed in April, 1927.

Freeport Texas Regular Dividend; Output to June 1 Higher Than 1927

Freeport Texas Co. declares usual extra dividend of 75 cents and regular quarterly dividend of $1, payable August 1 to stock of record July 14.

Production of Freeport Texas Co. for the first five months of 1928 was 356,890 tons against 303,225 tons for the first five months of last year.

Production for May, 1928, at Hoskins Mound was 44,875 tons, at Bryan Mound 38,705 tons. Total production for May was 83,580, the largest production for any single month in the history of the company.

Respecting the action brought by the American Sulphur Royalty Co. against Freeport Texas Co., the recent decision of the Supreme Court of the State of Texas, which is the court of last resort, was rendered in favor of Freeport Texas Co.

Celotex Co. elects following additional directors: O'Neill Ryan, Jr., sales promotion manager, Celotex Co., and W. J. Tully, former general solicitor, Metropolitan Life Insurance Co.

Fleischman Co., New York, declares regular quarterly dividend of 75 cents a share on common, payable July 2 on stock of record June 13.

The Industry's Stocks

1928 June 30 Bid	1928 June 30 Asked	1928 High	1928 Low	1927 High	1927 Low	Sales In June	Sales Since Jan. 1, '28	ISSUES	Par $	Shares Listed	An. Rate	Earnings $-per share-$ 1927	Earnings $-per share-$ 1926
								NEW YORK STOCK EXCHANGE					
63	64	74¼	59	199¼	134½	36,000	248,000	Air Reduction	No	223,445	$5.00	9 mo. 12.63	10.83
170½	171½	182½	146	169½	131	376,400	1,198,800	Allied Chem. & Dye	No	2,178,109	6.00	10.02	9.79
120½	120½	125¼	120½	124	120	4,400	16,470	7% pfd	100	392,849	6.00		61.28
19½	20	...	...	21½	8½	36,600	231,920	Am. Agricultural Chem.	100	333,221	2.00	Nil	...
65	66	75	55¾	72½	28½	26,100	243,820	pfd	100	284,552	1.50		3.59
87½	87½	95¾	70½	77¾	43¾	753,300	5,483,160	American Can	25	2,473,918	2.00	4.11	4.38
142	143	...	...	141½	126	3,700	29,460	pfd	100	412,333	7.00	31.66	33.31
108	109	118¾	56¾	72½	20½	382,100	1,859,420	American Linseed	100	167,500	...		...
120½	129	...	...	92½	46¾	21,400	70,960	pfd	100	167,500	7.00	7 mo. 6.00	.62
48	48½	51	39	49¾	36½	45,900	234,620	American Metal Ltd	No	594,278	4.00	9 mo. 3.64	3.88
113½	114½	...	...	113½	108	600	22,596	pfd	100	50,000	7.00	9 mo. 50.27	53.15
191¾	192	203½	169	188½	132¾	292,300	1,669,380	Amer. Smelt and Refin	100	609,980	7.50	6 mo. 19.64	23.38
136	137	142	131	133	119½	4,200	31,100	pfd	100	500,000	7.00	6 mo. 17.01	35.52
23½	24½	32¾	6¾	10½	5¾	68,000	729,600	Amer. Zinc & Lead	25	193,120	...	9 mo. Nil	...
82½	84½	...	...	51½	35	15,000	529,800	pfd	25	96,560	...	9 mo. 2.31	...
68½	68¾	74¾	53¾	60½	41½	794,000	4,490,920	Anaconda Copper Mining	50	3,000,000	3.00		4.74
82	85	97	55½	63	38	76,100	245,880	Archer Dan. Mid	No	200,000	...	5.76	6.35
114½	...	...	...	112¾	106	550	2,170	pfd	100	43,000	7.00	37.31	35.23
75	76	...	...	70	56½	2,300	33,700	Atlas Powder Co	No	260,393	4.00	5.75	7.04
108½	108½	...	...	107	98	420	3,078	pfd	100	90,000	6.00	6 mo. 22.71	26.46
138¾	140	141	95¾	131¾	104	330,600	929,280	Atlantic Refining	100	500,000	...	9 mo. Nil	11.24
7	7¼	10	4¼	5¼	3¼	89,000	249,220	Butte Copper & Zinc	5	600,000	.50	9 mo. 0.09	.32
11¼	12¼	16¾	9	11¾	7¾	33,900	222,860	Butte Superior Mng	10	290,197	2.00	9 mo. 0.23	1.71
69	72	...	...	92½	66	8,500	44,820	By Prod. Coke	No	189,931	3.00	9 mo. 4.84	6.00
...	...	...	...	2¾	1¼	41,500	415,560	Calla Lead & Zinc	10	723,355	...	9 mo. 0.08	...
22¼	22¼	...	...	24¼	14¼	60,500	652,820	Calumet & Hecla	25	2,005,502	1.50	9 mo. 0.29	.75
42½	43	63½	40¼	55¼	42	80,200	732,620	Certainteed Prod	No	307,000	4.00	9 mo. 6.07	6.02
95	97	...	...	118¾	106	200		1st pfd	100	43,000	7.00	9 mo. 56.80	54.30
...	...	45½	37¾	44¾	33½	122,800	876,630	Chile Copper	25	4,435,595	2.50	6 mo. 0.62	2.65
79½	81	98¼	79	101¼	66½	8,900	91,540	Columb Carbon	No	204,131	4.00	9.41	6.51
150	150¾	...	...	203	145	17,400	292,500	Commercial Solvents	No	108,861	4.00	9 mo. 9.24	14.13
98½	99½	114¾	80¼	86¾	58¾	147,200	1,144,760	Cont. Can	No	620,000	6.00	7 mo. 7.54	6.36
124¾	125¼	...	...	126	120	420	2,110	pfd	100	52,930	7.00	7 mo. 86.82	70.55
71½	72	82¾	64¾	68	46¾	132,800	1,211,800	Corn Products	25	2,530,000	2.00	9 mo. 4.01	4.03
140½	143½	...	...	142½	128	2,700	10,800	pfd	100	250,000	7.00	9 mo. 47.62	47.73
45¾	46¼	57¼	34¾	48½	26¼	146,500	772,060	Davison Chem	No	310,000	...		...
49	51	61	40	42½	36½	11,600	254,500	Devoe & Rayn A	No	95,000	2.40	(†) 5.47	5.22
114¼	115½	...	...	114½	101	180	2,170	1st pfd	100	18,096	7.00	6 mo. 53.23	49.70
116	116½	...	...	118	105½	3,900	35,540	Dupont deb	100	795,212	6.00	9 mo. 57.04	52.51
375	377	405½	310	343½	168	57,600	381,060	Dupont de Nemours	No	2,661,658	9.50	15.45	13.98
175	176	186	163	175½	126¼	22,100	188,340	Eastman Kodak	No	2,055,340	5.00		9.50
130½	132	...	...	131½	119¼	80	852	pfd	100	61,657	6.00		322.11
125	140	...	...	97	75½	300	3,800	Fed. Mining & Smelting	100	50,400	...	23.36	35.95
68¼	68¾	76¾	65	71¼	46¼	146,600	1,472,720	Fleischmann	No	4,500,000	3.00	4.30	4.08
...	...	109½	63½	106½	34	232,200	2,269,020	Freeport Texas	No	729,733	4.00	9 mo. 5.24	2.48
75	75½	94¾	68	96½	65	142,200	1,455,700	General Asphalt	100	243,550	...	6 mo. 5.00	8.11
117½	119½	...	...	144¼	107½	10,800	40,300	pfd	100	68,742	5.00	6 mo. 4.20	27.58
89	90	105¾	71	78¾	42	300,900	2,121,820	Gold Dust	No	318,586	...	6.20	3.01
69	70½	73½	64½	70¾	43½	20,800	105,610	Household Prod	No	575,000	3.50	6 mo. 5.22	5.22
16½	17	20½	13	16¾	6¼	47,900	231,300	Intern. Agri	No	441,695	...	Nil	1.60
77½	78½	80½	48¾	65	33	12,700	68,700	pfd	100	100,000	...	Nil	14.06
93	93½	103	73¾	89½	38½	1,304,200	7,830,300	Intern. Nickel	25	1,673,374	2.00	9 mo. 2.26	3.00
...	...	116	110½	110	103¾	200		pfd	100	89,126	6.00	9 mo. 46.94	62.35
61	62	...	...	75	63	1,650	8,788	Intern. Salt	100	60,771	6.00	6 mo. 2.64	8.35
104¾	106	134	96½			141,300	698,860	Johns-Mansville	No	750,000		4.69	4.34
66½	68	77¼	63½	78¼	45	36,300	423,400	Liquid Carbonic Corp	No	125,000	3.60	5.90	11.34
48	51	...	...	58¼	43	3,900	32,840	Mac and Forbes	No	376,748	2.00	9 mo. 2.36	3.30
124	125	...	...	132¾	82	32,800	223,960	Matheison Alk	No	147,207	6.00	9 mo. 11.27	9.88
120	126	...	...	120	103	90	790	pfd	100	24,750	7.00	9 mo. 74.06	67.85
20	20¼	22	17¼	20¼	13	36,300	243,900	Miami Copper	5	747,114	1.50		1.52

1928 June 30 Bid	1928 June 30 Asked	1928 High	1928 Low	1927 High	1927 Low	Sales In June	Sales Since Jan. 1, '28	ISSUES	Par $	Shares Listed	An. Rate	Earnings $-per share-$ 1927	Earnings $-per share-$ 1926
35⅛	36⅛	58⅛	29½	56⅛	17	49,100	406,040	National Dist. Prod.	No	167,651	...	9 mo. 0.54	...
54	56½	...	...	69½	43	2,100	21,560	pfd.	No	109,795	...	9 mo. 1.62	...
120½	124	...	...	202½	95	5,500	52,480	National Lead.	100	206,554	8.00	10.25	35.33
144½	146	...	...	139½	131½	1,500	8,620	pfd A	100	243,676	7.00		
120	120½	...	...	116½	104½	700	7,180	pfd B.	100	103,277	6.00		
30½	31	...	...	27⅛	19½	25,600	381,200	Penick & Ford.	No	433,773	...	9 mo. 2.04	1.37
179	180	189½	157	168½	126	12,500	187,280	Peoples Gas Chi.	100	60,000	8.00	11.15	11.04
42½	43	49	37	43½	36	33,600	233,700	St. Joseph Lead.	10	1,951,517	2.50	1.85	4.21
43⅛	44	49	37½	41½	35½	511,000	2,883,920	Standard Oil Co of N. J.	25	24,262,532	1.00		5.01
34½	34⅞	41½	28½	34½	29½	612,100	3,646,180	Standard Oil Co. of N. Y.	25	17,023,928	1.60	0.90	1.9 4
14	14½	16½	10½	13½	8½	68,500	387,600	Tenn. Cop. & Chem.	No	794,624	1.00		1.31
66½	67½	80½	62½	81⅛	49	369,300	3,245,340	Texas Gulf Sulfur.	No	2,540,000	4.00	4.76	3.69
147	147½	162½	136½	154½	98½	163,000	1,246,200	Union Carbide.	No	2,827,470	6.00	9 mo. 6.64	9.07
8	9½	...	...	10	3½			United Dyewood.	100	139,183	7.00	9 mo. Nil	...
61	64½	...	...	49	36½	90	1,400	pfd.	100	39,500	...	6 mo. 2.72	3.88
110½	111½	122½	102½	111½	69	78,700	714,580	U. S. Ind. Alc.	100	240,000	5.00	6.00	7.04
120½	123	...	...	121	107½	200	2,670	pfd.	100	60,000	7.00		35.16
49	50	53	44½	48½	26½	10,500	112,590	Va. Car. Chem Com. 6% pfd.	100	213,350	...		6.73
93	94	16½	12	91	73	4,000	24,290	7% pfd.	100	142,910	7.00		17.54
								NEW YORK CURB					
...	...	31½	22½	31½	30	2,650	54,270	Acetol Prod.	No	60,000			
150	150	197½	120	145½	67½	10,000	101,970	Aluminum Co. of America.	No	1,427,625	...	4.02	...
...	...	...	...	43½	25			"B".	20	263,772	1.20	3.09	3.49
18½	18	24	13	18½	3½	69,300	167,340	Amer. Rayon Prod.	No	110,000	1.00		Nil
31½	31½	41½	25½	29	11	14,000	132,240	Amer. Solvents & Chem. pfd.	No	160,000	...		Nil
47	46½	54	26½	31½	14	58,700	136,700	Anglo Chile Nitrate.	No	1,756,750	...	Loss	Loss
...	...	...	...	43½	22	1,900		Canad. Ind. Alc.	No	800,000	1.28	2.49	2.63
...	...	226	156	...	...	7,870		Casein Co.					
...	...	103	70½	117	44	12,700	175,840	Celanese Corp of Am	No	1,000,000	...	1.91	1.80
...	...	...	...	129½	60	1,500	18,900	Celluloid Co.	100	70,980	...		...
...	...	...	...	133½	113½	100	5,390	1st pfd	100	24,551	...		...
...	...	69½	49	91	84	400	4,380	Celotex pfd.	No	164,730	3.00		5.06
...	...	161	117½	126	76½			Chesebro Mfg Co.	25	120,000	4.00		8.06
...	...	24½	21½	38½	24½	1,300	43,820	Courtaulds.	£1	£12,000,000	16½%		18.18
...	...	...	...	202	180	40	998	Hercules Powder.	100	147,000	16.37	9 mo. 16.37	18.18
...	...	124	118½	121	114	60	840	pfd.	100	111,392	7.00	28.04	30.82
...	...	13⅛	7½	10	7½	1,600	11,180	Heyden Chem.	10	150,000	...		0.32
16½	16½	26	15⅛	24½	4½	56,500	612,980	Indus. Rayon "A"	No	452,544	...		2.27
...	...	...	...	39	37½	900	8,860	Monsanto Chem.	No	110,000	2.50	6.11	5.60
...	...	275½	180½	194½	178	30		N. J. Zinc.	100	490,816	8.00	14.34	14.34
...	...	123½	85⅛	112	60½	42,600	73,540	Palmolive Peet.	No	1,500,000	...	5.04	2.86
120½	120½	...	...	105½	84	425	2,480	Penn Salt.	50	150,000	5.00	8.09	6.08
...	...	...	...	14½	8	1,100	12,080	Pyrene Mfg.	10	223,158	2%	6.42	2.38
...	...	...	...	335	160	560	2,950	Royal Baking Powder.					
...	...	...	...	110	100	100	1,000	pfd.					
...	...	79½	65½	68½	44	225	1,675	Sherwin Williams.	25	594,445	3.00	6.42	5.59
23½	23½	29	17	20½	13½	8,500	76,420	Silica Gel.	No	600,000	...		...
74½	74½	83½	70½	81½	64½	3,300		Standard Oil Co. of Indiana.	25	9,136,618	...		6.03
...	...	9½	7½	12	5	700	9,300	Snia Viscosa.	150 lire	6,666,666⅔	.72		6.86
...	...	...	...	21	13½	100		Swan & Finch.	25	34,458	.87½		...
...	...	137	125	130	115½	3,900	39,080	Swift & Co.	100	1,500,000	8.00	8.13	10.43
515	515	630	450	499	145	4,640	74,698	Tubize "B".	No	78,868	...		...
18½	18	18½	17½	110½	82½	8,570	27,710	U. S. Gypsum.	20	687,875	8%	10.10	11.35
79½	79½	85½	67	77	50½	17,400	100,200	Wesson Oil and Snow.	No	300,000	4.00	5.26	8.71
								CLEVELAND					
...	...	...	...	115	74½	1,120		Cleve-Cliff Iron.	No	400,000	4.00		
...	...	175	112½	108	70	349		Dow Chem.	No	100,000	4.00		...
...	...	...	...	106½	100	10		pfd.	100	30,000	7.00		...
...	...	...	...	21½	15½	1,000		Glidden.	No	400,000	2.00	3.03	3.41
101	101	...	...	100	84	30		pfd.	100	71,922	7.00	6 mo. 23.91	25.98
147½	147½	...	...	135	127	621		Grasselli.	100	215,704	...	11.27	10.24
...	...	111	105½	109½	102½	706		pfd.	100	123,742	6.00		23.68
...	...	...	...	24½	4½			Indus. Rayon "A".	No	452,544	...		2.27
...	...	80	65½	70	44	2,213		Sherwin Williams.	25	594,445	3.00	6.42	5.59
...	...	109½	106	109	104	750		pfd.	100	125,000	6.00		...
...	...	27½	25	...	...	1,491		Wood Chemical Prod. "A".	No	20,000	2.00		...
								PITTSBURGH					
...	...	...	...	33½	18	20	1,711	Am. Vitrified Prod.	50	70,000	7.50	2.95	2.19
								CHICAGO					
...	...	69	49	86	53	495		Celotex.	No	170,456	3.00	3.31	
...	...	88	80	92	82	490		pfd.	100	52,534	7.00		
...	...	60½	38½	39	37	7,840		Monsanto Chem.	No	110,000	2.50	6.11	
...	...	136	124½	130	115½	5,608		Swift & Co.	100	1,500,000	8.00	8.13	10.43
...	...	...	...	152½	99			Union Carbide.	No	2,827,470	6.00	9 mo. 6.64	9.07
...	...	100	69	110½	82	30,856		U. S. Gypsum.	20	687,875	8%	10.10	11.35
								CINCINNATI					
...	...	...	...	125½	113½	57	222	Fleishmann pfd.	100	12,295	6.00	1,589.49	1,501.80
281½	279	300	249	250	177	1,722	14,818	Proc. & Gam.	20	1,250,000	4.75		9.17
								BOSTON					
22½	22½	25½	20½	17½	14½	8,601	68,475	Calumet & Hecla.	25	2,005,502	1.50	9 mo. 0.29	.75
...	...	135½	124½	130½	115	1,407	8,990	Swift & Co.	100	1,500,000	8.00	8.13	10.43
								ST. LOUIS					
...	...	...	...	...	...		337	Certainteed Prod. pfd.	100			56.80	
...	...	47½	39½	36	36	70	1,216	South Acid and Sulfur Co.	No	52,000	3.00		...
								PHILADELPHIA					
...	...	...	...	105½	74½	1,488	7,680	Penn. Salt.	50	150,000	5.00	8.09	6.08
137½	137½	...	...	118½	89½	287,200	888,603	United Gas Imp.	50	2,130,088	...		4.59
								MONTREAL					
33⅛	31	...	...	39½	20	...	....	Asbestos Corp.	No	200,000	1.50		1.02
92½	92½	...	...	98	82½	...	....	pfd.	100	74,561	7.00		
43	42½	...	...	43½	21½	...	....	Canada. Ind. Alc.	No	(d)800,000	1.28	2.49	2.63
86	85	...	...	*277½	67	...	....	Shawinigan W. & P.	No	1,100,000	2.00	2.63	
...	...	...	...	207	142	...	....	Sherwin William of Can.	100	40,000	6.00	8.84	9.54
...	...	...	...	127	117	...	....	pfd.	100	34,350	7.00		
								BALTIMORE					
...	...	...	...	39½	37	1,000		Davison Chem.	No	310,000	...		...
23	23	28½	17	20½	15	2,672	25,698	Silica Gel.	No	600,000	...		...
								UNLISTED					
...	...	...	...	...	...	...	....	Casein Co.	100	21,196	7.00		7.10
...	...	...	...	89	55	...	....	Merck & Co pfd.	100	33.950	4.00		7.60
70	67	...	...	...	...	...	....	Merrimac.	50	70,560	...		...
...	...	...	...	...	...	...	....	Newport Chem.	1	912,198	4%		

*Old stock. † Combined A & B. (b) June 18 to Dec. 30. (d) 1927 earnings on 969,480. (e) Bid & Asked. (f) Thru Jan. 28 (g) High low.

The Trend of Prices

Heavy Chemical Market Slows Down With Arrival of Summer Season

Advances in Ammonia and Acetone Feature June Market —Methanol Firmer—Business Tapers Off With Approach of July—Mercury Easier—Alcohol Still Firm—Demand for Copper Sulfate Less Pronounced.

Featuring an otherwise quiet market during the month of June, advances in the warehouse delivery price of anhydrous ammonia and the spot price of acetone were the only outstanding price movements of the past four weeks.

These advances are a criterion of the general position of the market, which despite a natural Summer falling off in volume, retains a generally firm position going into the off season. The demand held up a bit better than was expected during the early weeks of the month and it was not until the closing days of June that any appreciable falling off in withdrawals of contract material was in evidence. Compared with the same period in former years, June of this year was slightly ahead of its recent predecessors. There are a few seasonal movers which are now coming into their own, but as a whole the market is routine and with vacation time and shutting down of consuming industry plants for the Summer, little or no change in the position may be looked for until some time after Labor Day.

Reviewing the business of the past few months it can be said that sales of practically all items have been very satisfactory and the pre-year predictions of a good Spring in 1928 were not exaggerated. As a result of the good business consummated during March, April and May very little complaint is heard and most sellers are satisfied to accept the present let down as a normal state of affairs. This does away with the complaint of poor business which has been heard in previous years at this season.

Days of rain interspersed at unstrategic moments—from the sellers' points of view—has had the effect of retarding the sale of calcium chloride during the month but a continuation of weather prevailing at the current writing should unearth a better volume of spot business as well as accelerated withdrawals on contract. Practically all of the orders for copper sulfate for the current season are now in and producers are faced with the problem of keeping up to date on shipments against contracts. Stocks are still in limited supply and the Eastern producers are shipping out their daily production against orders on hand. A study of the price at this season last year shows that the market has advanced from ¼c to 3.8c lb. since that time. The price of the raw material copper has advanced more in proportion than has copper sulfate and it is the contention of the producers that the present levels do not yield as much as was the case when metal was cheaper. For this reason no weakness is looked for and the production is taken care of until the advent of the export buying season in the Fall.

Anhydrous Ammonia Advances

As indicated in our last review of the ammonia market, all producers of anhydrous grade have advanced the spot warehouse price ½c lb. It is true that this does not effect a large portion of the business which has been placed on contract nor does it effect the sizable shipments direct from producers' works, but it indicates that the latter are not anxious to take too many spot orders. One producer has advanced the price of aqua ammonia ¼c lb. and it is believed others are waiting to see what effect this move will have on the sale before deciding to follow suit or reject the advance as untimely.

In the alcohol group, methanol is attracting some attention by the firmer undertone which has been apparent since our last report. Practically all factors are unanimous in stating that they are now holding for the current market levels This does not mean that any advance may be looked for, but it does seem that sellers have finally decided to eliminate the price cutting to some extent which has prevailed for months past. July 1 marked the scheduled advance in price of the completely denatured grades of alcohol. Sellers continue to insist that the market is well maintained and that they are getting the full schedule price in practically every instance. There seems little doubt that this is true to a great extent as reports from dealers in alcohol centers throughout the country indicate that the position is firmer in all these markets, with a resulting better interest on consumers part. On the other hand there is not much sizeable business passing hands just now as the bulk of it for the Fall season has been consumated at contract levels. Methyl acetone seems the weakest member of the group. Under pressure of continued competition for business the openly quoted market is again the subject of shading in practically all directions.

Acetone Up 2c Per Pound

The rather sharp advance in acetone, while not unwarranted, came as something of a surprise at the end of June. With the current market advanced 2c lb. to 15c lb., sellers continue to find a good demand and are selling up to their expectations. Domestic white sal ammoniac continues to hold up fairly well. Sales have fallen off a bit since May, but makers state that they are satisfied with the business being done under the circumstances. An upward turn in the price of domestic barium chloride furnished one of the surprises for the month. This item has been in such an easy position for a long while that it seemed unlikely that recoveries were possible. However, for reasons not advanced, there is a shortage of imported stocks on the New York market and domestic makers have advanced their inside price from $1 to $2 a ton to a level more nearly approaching their openly quoted level. While this condition may be temporary it is known that at least one importer bought domestic goods on this market at levels which will necessitate their sale at levels considerably higher than was the case a month ago if a profit is to be realized.

The advance which mercury experienced during May was short lived. At the time the increase seemed more a gesture on the dealers part, based on foreign cable information, than a genuine advance because of any sustained demand. In fact, since the reduction, inquiries for parcels of a sizeable nature have been more noticeable. Stocks in Europe are still quite large and factors abroad probably look to the present off season to lighten the burden of these stocks before the production is under way again in October.

There has not been any change in the borax situation since the sharp reduction of last month. No over night rush of business was anticipated as a result of this move, but sellers are of the opinion that a steady increase in sales will result. Glycerin is still very quiet and is classed as nominal. Sellers are holding at the levels named for the past six or eight weeks and profess to be firm at this level, but a good sized inquiry would probably induce some shading in the dynamite grade. Chemicals which enter into the textile consuming fields are mostly routine, Glauber salts, technical epsom salts and formic acid are all quiet. Glauber salts are particularly in a very weak position and the conditions which have prevailed in New England with imported goods cut sharply are now apparent in the Metropolitan district, though the cutting is not so pronounced.

Prices Current

Heavy Chemicals, Coaltar Products, Dye-and-Tanstuffs, Colors and Pigments, Fillers and Sizes, Fertilizer and Insecticide Materials, Naval Stores, Fatty Oils, etc.

Chemical prices quoted are of American manufacturers for spot New York, immediate shipment, unless otherwise specified. Products sold f. o. b. works are specified as such. Imported chemicals are so designated. Resale stocks when a market factor are quoted in addition to makers' prices and indicated "second hands."

Oils are quoted spot New York, ex-dock. Quotations f.o.b. mills, or for spot goods at the Pacific Coast are so designated.

Raw materials are quoted New York, f. o. b., or ex-dock. Materials sold f. o. b. works or delivered are so designated.

The current range is not "bid and asked," but are prices from different sellers, based on varying grades or quantities or both. Containers named are the original packages most commonly used.

Standard Purchasing Power of the Dollar: July 1914 $1.00 - Jan. 1927 68.7c - July 1927 71.7c - April 1928 67.8c

Acetone — Based on a continued good demand and a falling off of stocks in sellers hands, the price was advance in all directions about the 1st of June to 15c lb. for carlots at the works. This schedule is being maintained and sellers are having no trouble of disposing of stocks to spot customers at the new level. Material on contract is, of course, moving at the same level as before the advance.

Acid Acetic — There has not been any change in this item during the entire month. Withdrawals are of sufficient volume to satisfy sellers as to the tone of the market.

Acid Cresylic — Unchanged as to price but the good demand which has been apparent for some time past continued in effect during June. The principal consuming industries are taking on their requirements at the anticipated rate.

Acid Oxalic — There has not been any particular change in the New York market. Leading producers are enjoying a comfortable sale and while there have been instances of fractional shading the market is well held in almost every direction at 11c @ 11½c lb.

Alcohol — Some of the distributors seem more in accordance with the sellers views that the alcohol market has taken a turn for the better and report that alcohol is showing noticeable signs of improvement. Producers continue to report market as quite well maintained in all directions and in this opinion there is no dissenting voice. As large portion of the Fall business is already taken care of on contract, there is not any sizeable movement of spot shipments, but what business there is being done is at the quoted basis.

Ammonia — As indicated in our report last month an advance in price seemed imminent at that time and this has taken place to some extent during June. All producers have advanced the spot warehouse price for anhydrous grade ½c lb. and the market for delivery of small lots out of warehouse is 14c lb. The works price of 13½c lb. has not been subject to any revision, but, nevertheless the market continues in its very strong position and with the heavy contract withdrawals brought on by the warm weather, any-

1914 July	1927 High	1927 Low	1927 Aver.		Current Market	1928 High	1928 Low
.....	.24	.24	.24	Acetaldehyde, drs 1c-1 wks...lb.	.18½	.21	.26	.18½
.....	.20	.20	.20	Acetanilid, tech, 150 lb bbl....lb.	.23	.24	.24	.23
.....	.29	.29	.29	Acetic Anhydride, 92-95%, 100 lb cbys.....lb.	.29	.35	.35	.29
.....	.38	.32	.37	Acetin, tech drums.....lb.				
.02½	.12	.12	.12	Acetone, CP, 700 lb drums c-1 wks.....lb	.....	.15	.15	.13
1918	1.65	1.65	1.65	Acetone Oil, drs NY.....gal.	1.65	1.75	1.75	1.65
.....	.42	.42	.42	Acetyl Chloride, 100 lb cby...lb.	.42	.45	.45	.42
				Acids				
1.50	3.38	3.38	3.38	Acid Acetic, 28% 400 lb bbls c-1 wks.....100 lb.	.....	3.38	3.38	3.38
.....	11.92	11.92	11.92	Glacial, bbl c-1 wk...100 lb	.....	11.92	11.92	11.92
.....	.98	.98	.98	Anthranilic, refd, bbls.....lb.	.98	1.00	1.00	.98
.....	.80	.80	.80	Technical, bbls.....lb.	.....	.80	.80	.80
1.00	1.60	1.25	1.38	Battery, cbys.....100 lb.	1.60	2.25	2.25	1.60
.23	.57	.57	.57	Benzoic, tech, 100 lb bbls...lb.	.57	.60	.60	.57
.07½	.08½	.08½	.08½	Boric, crys. powd, 250 lb bbls.....lb.	.08½	.11	.11	.08½
.....	1.25	1.25	1.25	Broenner's, bbls.....lb.	.....	1.25	1.25	1.25
1917	.85	.80	.84	Butyric, 100% basis cbys...lb.	.85	.90	.90	.85
1917	4.90	4.85	4.89	Camphoric.....lb.	.....	4.85	4.85	4.85
.....	.25	.25	.25	Carbolic, 10%, 50 gal bbls..lb.	.13	.14	.28	.13
.....	.15	.15	.15	Chlorosulfonic, 1500 lb drums wks.....lb.	.15	.16	.16	.15
1918	.37	.25	.29	Chromic, 99%, drs extra...lb.	.25	.30	.30	.25
.....	1 00	1.00	1.00	Chromotropic, 300 lb bbls..lb.	1.00	1.06	1.06	1.00
.53	.44½	.43	.43⅜	Citric, USP, crystals, 230 lb bbls.....lb.	.46	.59	.44½	.59
.....	.95	.95	.95	Cleve's, 250 lb bbls.....lb.	.95	.97	.97	.95
1918	.60	.57	.61	Cresylic, 95%, dark drs NY.lb.	.71	.73	.71	.68
1918	.70	.60	.63½	97-99%, pale drs NY....lb.	.73	.78	.74	.72
1918	.11	.10	.10½	Formic, tech 85%, 140 lb cby.....lb.	.11	.12	.12	.11
1918	.50	.50	.50	Gallic, tech, bbls.....lb.	.50	.55	.55	.50
1918	.74	.69	.72	USP, bbls.....lb.	...	.74	.74	.74
.....	1.00	1.00	1.00	Gamma, 225 lb bbls wks...lb.	1.00	1.06	1.06	1.00
1918	.57	.57	.57	H, 225 lb bbls wks.....lb.	.57	.63	.63	.57
.....	.67	.65	.65½	Hydriodic,USP,10%soln cbylb.	...	.67	.67	.67
.....	.45	.45	.45	Hydrobromic, 48%, coml, 155 lb cbys wks.....lb.	.45	.48	.48	.45
				Hydrochloric, CP, see Acid Muriatic.....				
.....	.80	.80	.80	Hydrocyanic, cylinders wks lb.	.80	.90	.90	.80
.03	.06	.06	.06	Hydrofluoric, 30%, 400 lb bbls wks.....lb.	.....	.06	.06	.06
.....	.11	.11	.11	Hydrofluosilicic, 35%, 400 lb bbls wks.....lb.	.....	.11	.11	.11
.....	.85	.85	.85	Hypophosphorous, 30%, USP, demijohns.....lb.	.....	.85	.85	.85
.019	.05½	05½	.05½	Lactic,22%,dark,500 lb bbls lb.	.04½	.05½	.06	.04¾
.04	.13	.13	.13	44%, light, 500 lb bbls ...lb.	.12	.12½	.13½	.12
.....	.52	.52	.52	Laurent's, 250 lb bbls.....lb.	.52	.54	.54	.52
.....	.60	.60	.60	Metanilic, 250 lb bbls.....lb.	.60	.65	.65	.60
1918	.07¾	.07¾	.07¾	Mixed Sulfuric-Nitric..... drs wks.....N unit	.07¾	08	.08	.07¾
1918	.01	.01	.01	drs wks.....S unit	.01	.01½	.01½	.01
.....	.21	.18	.19½	Monochloroacetic, tech bbl.lb.	.18	.21	.21	.18
.....	1.65	1.65	1.65	Monosulfonic, F Delta bbls.lb.	.....	.65	.65	.65
1.15	1.35	1.35	1.35	Muriatic, 18 deg, 120 lb cbys c-1 wks.....100 lb.	.....	1.35	1.35	1.35
1.30	1.70	1.70	1.70	20 degrees, cbys wks..100 lb.	1.70	1.80	1.80	1.70
.....	.95	.95	.95	N & W, 250 lb bbls.....	.85	.95	.95	.85
1918	.55	.55	.55	Naphthionic, tech, 250 lb .....lb.	.55	.59	.59	.55
3.37½	5.00	5.00	5.00	Nitric, 36 deg, 135 lb cbys c-1 wks.....100 lb.	.....	5.00	5.00	5.00
4.50	6.00	6.00	6.00	40 deg, 135 lb cbys, c-1 wks.....100 lb.	.....	6.00	6.00	6.00
.07½	.11½	.11	.11	Oxalic, 300 lb bbls wks NY..lb.	.10¾	.11	.11½	.10¾
.036	.08	.07	.07½	Phosphoric 50%, 150 lb cby.lb.	.08	.08½	.08½	.08
.23	.19	.16	.16¾	Syrupy, USP, 70 lb drs...lb	.....	.16	.16	.16
1918	.50	.50	.50	Picramic, 300 lb bbls.....lb	.....	.50	.50	.50
.50	.45	.30	.41½	Picric, kegs.....lb.	.40	.50	.50	.40
.....	.86	.86	.86	Pyrogallic, technical, 200 lb bbls.....lb.	.....	.86	.86	.86
.22½	.27	.27	.27	Salicylic, tech, 125 lb bbl...lb.	.27	.32	.32	.27
1918	.15	.15	.15	Sulfanilic, 250 lb bbls.....lb.	.15	.16	.16	.15
1.00	1.60	1.60	1.60	Sulfuric, 66 deg, 180 lb cbys 1c-1 wks.....100 lb.	1.60	1.95	1.95	1.60
1.00	1.20	1.20	1.20	1500 lb dr wks.....100 lb.	.....	1.20	1.20	1.20
.87½	1.10	1.10	1.10	60°, 1500 lb dr wks..100 lb.	.....	1.12½	1.12½	1.12½
1.25	1.50	1.50	1.50	Oleum, 20%, 1500 lb drs 1c-1 wks.....100 lb.	.....	1.52½	1.52½	1.52½
.....	42.00	42.00	42.00	40%, 1c-1 wks net.....ton	.....	42.00	42.00	42.00
.55	.30	.30	.30	Tannic, tech, 300 lb bbls...lb.	.30	.40	.40	.30
.30½	.37	.29½	.32½	Tartaric, USP, crys, powd, 300 lb bbls.....lb.	.37	.38	.38	.34½
.....	.85	.85	.85	Tobias, 250 lb bbls.....lb.	.....	.85	.85	.85

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Prices Current and Comment

Standard Purchasing Power of the Dollar: July 1914 $1.00 - Jan. 1927 68.7c - July 1927 71.7c - April 1928 67.8c

thing but an extremely firm market for the balance of the season is highly unlikely. Aqua is receiving better support from sellers and has lost the tone of listlessness which it caried in comparison with the anhydrous market. In at least one direction the price has been advanced ¼c lb. to 3¼c lb. and it is believed that the balance of the producers only await the result of this move before following suit.

Ammonium Chloride — Sales of white continues fairly good with domestic manufacturers still in control of the market at the level of $4.70 100 lbs. which they established some few months ago. Business on this grade does not seem quite so brisk as in May when a very good volume was reported, but sellers express themselves as satisfied with conditions. Conditions remain about the same in gray sal ammoniac, where the only stir of activity is caused by the conversion of a consumer to the use of zinc ammonium chloride or back again to gray sal ammoniac.

Ammonium Persulfate — In comparison to the brisk business of two to three months ago, the market is practically at a standstill. This condition was anticipated by the makers and they are not piling up stocks at local warehouse points. The Fall months are expected to bring a healthy revival of business on a larger scale than heretofore.

Ammonium Sulfate — With the season entirely over, all business during the past month has been in futures. Quotations are now at $2.20 @ $2.30 per 100 lbs., depending upon tonnage and date of delivery. Contracts are being made at these prices for delivery within the next four months and fair activity has been noted.

Antimony — The metal market has declined 1c lb. during the past month. Business has been quiet and the market weak. Heavy stocks have been and are accumulating at the Chinese seaports and there is little consuming demand here. This condition has been seasonal for the past three or four years, but was entirely unlooked for on the part of some who thought that internal difficulties would hamper the usual mining and delivery of the metal this year. However, supplies have come through as usual and the market has declined instead of going up. Metal is now at 9¾c lb. and oxide at 10¼c lb.

Arsenic — Some movement into consuming channels is reported for the month but this is normal for this season of the year and there is no change in the price of 4c @ 4¼c lb.

1914 July	1927 High	1927 Low	1927 Aver.		Current Market	1928 High	1928 Low
.....	2.75	2.00	2.60	Trichloroacetic, bottles....lb.	.....	2.75	2.75	2.75
.....	2.00	2.00	2.00	Kegs....lb.	.....	2.00	2.00	2.00
.....	1.00	1.00	1.00	Tungstic, bbls....lb.	1.00	1.25	1.25	1.00
.19	.45	.45	.45	Albumen, blood, 225 lb bbls...lb.	.43	.47	.55	.43
.40	.95	.80	.87	Egg, edible....lb.	.79	.84	.84	.79
.....	.92	.77	.82	Technical, 200 lb. cases..lb.	.70	.75	.80	.70
1918	.60	.60	.60	Vegetable, edible....lb.	.60	.65	.65	.60
.....	.50	.50	.50	Technical....lb.	.50	.55	.55	.50
.....	.20•	.19	.19½	Alcohol Butyl, Normal, 50 gal drs c-1 wks....lb.	.....	18.25	.20	.18½
.....	.20½	.19½	.19½	Drums, 1c-1 wks....lb.	.....	18.75	.19½	.18½
.....	.19½	.18½	.19	Tank cars wks....lb.	.....	17.75	.19	.17½
.....	.....	.....	.....	Amyl (from pentane) drs c-l wks....gal.	1.75	2.25	2.25	1.75
1.70	1.70	1.70	1.80	Diacetone, 50 gal drs del...gal.	1.70	1.80	1.80	1.70
2.50	3.70	3.70	3.70	Ethyl, USP, 190 pf, 50 gal bbls....gal.	.....	2.65	3.70	2.65
.....	.50	.50	.50	Anhydrous, drums....gal.	.....	.66½	.55	.50
1919	.52	.37½	.46	Completely denatured, No. 1, 190 pf, 50 gal drs drums extra....gal.	.....	.49	.52	.48½
1918	.50	.29	.42	No. 5, 188 pf, 50 gal drs. drums extra....gal.	.....	.48	.50	.43
.....	.46	.25	.40	Tank, cars....gal.	.....	.43	.46	.41
.....	1.00	1.00	1.00	Isopropyl, ref, gal drs....gal.	1.00	1.25	1.25	1.00
.....	1.00	1.00	1.00	Propyl Normal, 50 gal dr...gal.	.....	1.00	1.00	1.00
.....	.80	.80	.80	Aldehyde Ammonia, 100 gal dr lb	.80	.82	.82	.80
1918	.65	.65	.65	Alpha-Naphthol, crude, 300 lb bbls....lb.	.....	.65	.65	.65
1917	.35	.35	.35	Alpha-Naphthylamine, 350 lb bbls....lb.	.35	.37	.37	.35
1.75	3.25	3.15	3.08½	Alum Ammonia, lump, 400 lb bbls, lc-1 wks....100 lb.	3.25	3.30	3.30	3.25
5.00	5.25	5.25	5.25	Chrome, 500 lb casks, wks ....100 lb.	5.25	5.50	5.50	5.25
4.00	3.50	3.10	3.43	Potash, lump, 400 lb casks wks....100 lb.	3.10	3.20	3.20	3.10
5.00	5.25	5.25	5.25	Chrome, 500 lb casks wks ....100 lb.	5.25	5.50	5.50	5.25
.....	3.75	3.75	3.75	Soda, ground, 400 lb bbls wks....100 lb.	.....	3.75	3.75	3.75
17.00	27.00	26.00	26.08	Aluminum Metal, c-1 NY.100 lb.	.....	24.30	26.00	24.30
.....	.35	.35	.35	Chloride Anhydrous, 275 lb drums....lb.	.35	.40	.40	.35
.12	.17	.17	.17	Hydrate, 96%, light, 90 lb bbls....lb.	.17	.18	.18	.17
.....	.23	.23	.23	Stearate, 100 lb bbls....lb.	.18	.22	.24	.18
1.25	1.75	1.75	1.75	Sulfate, Iron, free, bags c-1 wks....100 lb.	.....	1.75	1.75	1.75
.87½	1.40	1.35	1.35½	Coml, bags c-1 wks..100 lb.	.....	1.40	1.40	1.40
.....	1.15	1.15	1.15	Aminoazobenzene, 110 lb kegs.lb.	.....	1.15	1.15	1.15
				Ammonium				
.25	.13½	.10	.10½	Ammonia, anhyd, 100 lb cyl...lb.	.13½	.14	.14	.13½
.04½	.03	.02½	.03	Water, 26°, 800 lb dr del....lb.	.....	.03½	.03	.03
.....	.21	.21	.21	Bifluoride, 300 lb bbls....lb.	.21	.22	.22	.21
.08	.08½	.08½	.08½	Carbonate, tech, 500 lb cs...lb.	.08½	.09	.09	.08½
6.25	5.05	4.85	5.00	Chloride, White, 100 lb. bbls. wks....100 lb.	4.65	5.15	5.15	4.65
.05½	.07	.05½	.06	Gray, 250 lb bbls wks....lb.	5.25	5.75	5.75	5.25
.10	.11	.11	.11	Lump, 500 lb cks spot....lb.	.11	.11½	.11½	.11
.....	.15	.15	.15	Lactate, 500 lb bbls....lb.	.15	.16	.16	.15
.15	.06	.06	.06	Nitrate, tech, casks....lb.	.06	.10	.10	.06
.....	.27½	.27½	.27½	Persulfate, 112 lb kegs....lb.	.27½	.29	.38	.27½
.....	.18	.18	.18	Phosphate, tech, powd, 325 lb bbls....lb.	.....	.18	.18	.18
2.60	2.30	2.55	2.41	Sulfate, bulk c-1....100 lb.	2.20	2.30	2.90	2.20
2.60	2.55	2.35	2.42	Southern points....100 lb.	.....	2.50	3.00	2.50
.....	59.70	56.85	57.56	Nitrate, 26% nitrogen 31.6% ammonia imported bags....ton	.....	60.85	60.85	60.85
.....	.55	.55	.55	Sulfocyanide, kegs....lb.	.55	.60	.60	.55
1.55	2.25	1.90	2.10½	Amyl Acetate, (from pentane) drs....gal.	1.90	2.25	2.25	1.90
				Alcohol, see Fusel Oil.....				
.10½	.15½	.15	.15	Aniline Oil, 960 lb drs....lb.	.15½	.16½	.16½	.15½
.32	.41	.41	.41	Annatto, fine....lb.	.41	.48	.48	.41
.....	.90	.90	.90	Anthraquinone, sublimed, 125 lb bbls....lb.	.90	1.00	1.00	.90
.....	.11½	.14	.12	Antimony, metal slabs, ton lots ....lb.	.....	.9½	.11½	.09½
.03½	.15½	.14	.15	Needle, powd, 100 lb cs....lb.	.....	.10	.12	.10
1918	.17	.17	.17	Chloride, soln (butter of) cbys....lb.	.17	.18	.18	.17
.06	.16½	.16½	.16½	Oxide, 500 lb bbls....lb.	.....	.10½	.12	.10
.11½	.28	.25½	.26½	Salt, 66%, tins....lb.				
.18	.20	.16	.17½	Sulfuret, golden, bbls....lb.	.16	.20	.20	.16
.15	.42	.37½	.38	Vermilion, bbls....lb.	.38	.42	.42	.38
.14	.18	.18	.18	Archil, conc, 600 lb bbls....lb.	.17	.19	.19	.17
.08	.12	.12	.12	Double, 600 lb bbls....lb.	12	.14	.14	.12
.....	.16	.14	.15	Triple, 600 lb bbls....lb.	.15	.16	.16	.15
.....	.15	.12½	.13½	Argols, 80%, casks....lb.	.....	.08	.08	.08
.....	.08	.03	.06½	Coude, 30%, casks....lb.	.15	.16	.16	.15
.05½	.10½	.10½	.10½	Arsenic, Red, 224 lb kegs, cs..lb.	.10½	.11	.11	.10½
.03	.04	.03½	.04	White, 112 lb kegs....lb.	.04	.04½	.04	.03½
.....	14.75	14.75	14.75	Asbestine, c-1 wks....ton	.....	14.75	14.75	14.75
.....	47.50	47.50	47.50	Barium, Carbonate, 200 lb bags wks....ton	57.00	58.00	57.00	47.00
.13	.12	.12	.12	Chlorate, 112 lb kegs NY...lb.	.12	.12½	.12½	.12
30.00	65.00	57.50	60.70	Chloride, 800 lb bbl wks...ton	56.00	60.00	60.00	54.00
1916	.13	.13	.13	Dioxide, 88%, 690 lb drs...lb.	.13	.13½	.13½	.13
.....	.04½	.04½	.04½	Hydrate, 500 lb bbls....lb.	.04	.04½	.04½	.04½
.05½	.07½	.07½	.07½	Nitrate, 700 lb casks....lb.	.07½	.08	.08	.07½
17.00	23.00	23.00	23.00	Barytes, Floated, 350 lb bbls wks....ton	23.00	24.00	24.00	23.00
.....	.....	.....	.....	Bauxite, bulk, mines....ton	5.00	8.00	8.00	5.00
.39	.40	.37	.39	Beeswax, Yellow, crude bags..lb.	.37	.38	.38	.37
.40	.46	.38	.43	Refined, cases....lb.	.41	.43	.43	.41

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BARIUM CHLORIDE
BARIUM SULPHIDE
(Black Ash)

SODIUM SULPHIDE
30°-32° Crystals

IRON OXIDE
(Venetian Red)

ALTON BARIUM PRODUCTS CO., Alton, Ill.

ALTON PRODUCTS

Prices Current and Comment

Standard Purchasing Power of the Dollar: July 1914 $1.00 - Jan. 1927 68.7c - July 1927 71.7c - April 1928 67.8c

Barium Chloride — There has been a firmer tone apparent to the market during the past month, probably brought about by the temporary shortage of imported material on spot. Imported goods have been responsible for the easiness of the market for the past year as domestic makers have been forced to meet their levels. While no large volume of business is being done, sellers have succeeded in advancing the inside price to something nearer the openly quoted level. In one instance it is reported that an importer purchased a fairly good sized parcel from a domestic manufacturer at a level which would force an advance of several dollars over the price which prevailed last month in order to show a profit.

Beeswax — Large quantities have been offered during the past month and as a result the price of crude has declined to 36c @ 37c lb.

Benzene — Leading sellers state that they are having no trouble in maintaining the established market of 22c gal. at this writing and that such has been the case during the month past. Prospects of higher prices in motor fuel lend credence to this contention and while business at the moment is not very brisk the tone of the market is at least favorable to the likelihood of a continued even keel to the market.

Bleaching Powder — Has been moving fairly well during the period under report according to statements heard in some quarters. The gross volume by the year continues to decline and the inactivity of the textile field does not give the market a rosy hue but sellers are not disappointed in the volume passing hands.

Blood — Unusual interest for this time of the year has been shown in this commodity and as a result, prices are higher. Now quoted at $5.00 per unit, New York; $5.25 per unit, Chicago; and $5.05 per unit, South America.

Calcium Acetate — Sales have not been very brisk during the month of June Despite this condition there are no indications of deviation from the quoted levels of $3.50 100 lbs.

Calcium Chloride — Sellers have been somewhat handicapped this past month by the rainy weather interspersed with the fine days. This has cut into the sales of the item in a serious manner as most buyers are willing to take a chance on rain rather than buy any sizeable stocks of calcium chloride. However, the gross tonnage sold throughout the Spring and now being delivered was quite healthy and

1914 July	1927 High	1927 Low	1927 Aver.		Current Market		1928 High	1928 Low
.47½	.58	.56	.57½	White, cases.....lb.	.56	.58	.58	.56
.....	.65	.65	.65	Benzaldehyde, technical, 945 lb drums wks.....lb.	.65	.70	.70	.65
.....	.23	.21	.22	Benzene, 90%, Commercial, 8000 gal tanks wks.....gal.	.....	.22	.23	.21
.....	.23	.21	.22½	CP, tanks works.....gal.	.....	.22	.23	.21
.....	.70	.70	.70	Benzidine Base, dry, 250 lb bbls.....lb.	.70	.74	.74	.70
.....	1.00	1.00	1.00	Benzoyl, Chloride, 500 lb drs..lb.	.....	1.00	1.00	1.00
.....	.....	.....	.....	Benzyl, Chloride, tech drs....lb.	.....	.25	.25	.25
.....	.24	.24	.24	Beta-Naphthol, 250 lb bbl wk.lb	.24	.26	.26	.24
.....	1.35	1.35	1.35	Naphthylamine, sublimed, 200 lb bbls.....lb.	.....	1.35	1.35	1.35
.....	.63	.63	.63	Tech, 200 lb bbls.....lb.	.63	.65	.65	.63
75.00	80.00	80.00	80.00	Blanc Fixe, 400 lb bbls wks...ton	80.00	90.00	90.00	80.00
1.20	2.25	2.00	2.23	Bleaching Powder, 300 lb drs c-1 wks contract....100 lb.	.....	2.25	2.25	2.25
.....	2.25	2.00	2.02	700 lb drs c-1 wks contract .....100 lb.	.....	2.00	2.00	2.00
3.00	3.75	4.75	4.47½	Blood, Dried, fob, NY.....Unit	.....	5.00	5.25	4.75
.....	.....	.....	.....	Chicago.....Unit	.....	5.25	5.35	4.75
.....	.....	.....	.....	S. American shipt.....Unit	.....	5.05	5.05	4.50
.27	.30	.28	.29	Blues, Bronze Chinese Milori Prussian Soluble.....lb.	.31	.35	.35	.31
28.50	38.00	29.00	29.04	Bone, raw, Chicago.....ton	29.00	30.00	30.00	29.00
.....	.06	.06	.06	Bone, Ash, 100 lb kegs.....lb.	.06	.07	.07	.06
.02½	.08½	.08½	.06	Black, 200 lb bbls.....lb.	.....	.08½	.08½	.08½
20.00	30.00	28.00	29.46	Meal, 3% & 50%, Imp....ton	.....	32.00	37.00	32.00
.04	.04½	.04½	.04½	Borax, crys, 500 lb bbls.....lb.	.02½	.03½	.05	.02½
.07	.11	.11	.11	Bordeaux, Mixture, 16% pwd.lb.	.11	.12	.12	.11
.03½	.08	.08	.08	Paste, bbls.....lb.	.08	.10	.10	.08
55.00	28.00	26.00	27.30	Brazilwood, sticks, shpmt.....lb.	26.00	28.00	28.00	26.00
1918	.60	.60	.60	Bronze, Aluminum, powd blk.lb.	.60	1.20	1.20	.60
.....	.55	.55	.55	Gold, bulk.....lb.	.55	1.25	1.25	.55
.....	1.60	1.42	1.52	Butyl, Acetate, normal drs 1c-1 wks.....gal.	.....	1.45	1.60	1.60
.....	1.55	1.42	1.47½	Tank, drs wks.....gal.	.....	1.40	1.55	1.55
.....	1.00	1.00	1.00	Secondary, 50 gal drs.....gal.	1.00	1.05	1.05	1.00
.....	.70	.70	.70	Aldehyde, 50 gal drs wks...lb.	.....	.70	.70	.70
.....	.34	.34	.34	Propionate, drs.....lb.	.34	.36	.36	.34
.....	.60	.60	.60	Stearate, 50 gal drs.....lb.	.....	.60	.60	.60
.....	.57	.57	.57	Tartrate, drs.....lb.	.57	.60	.60	.57
1918	1.50	1.35	1.42	Cadmium, Sulfide, boxes.....lb.	1.35	2.00	2.00	1.35
				Calcium				
.....	3.50	3.50	3.50	Calcium, Acetate, 150 lb bags c-1.....100 lb.	.....	3.50	3.50	3.50
.....	.07½	.07½	.07½	Arsenate, 100 lb bbls c-1 wks.....lb.	.07	.08	.08	.07
.....	.05	.05	.05	Carbide, drs.....lb.	.05	.06	.06	.05
.....	1.00	1.00	1.00	Carbonate, tech, 100 lb bags c-1.....lb.	1.00	1.00	1.00	1.00
1918	27.00	27.00	27.00	Chloride, Flake, 375 lb drs c-1 wks.....ton	.....	25.00	27.00	25.00
12.00	21.00	21.00	21.00	Solid, 650 lb drs c-1 fob wks .....ton	20.00	22.00	23.00	20.00
.....	52.00	52.00	52.00	Nitrate, 220 lb bbls c-1 NY.ton	.....	52.00	52.00	52.00
.....	.09	.09	.09	Phosphate, tech, 450 lb bbls.lb.	.07	.08	.08	.07
.....	.....	.....	.....	Camwood, Bark, ground bbls.lb.	.....	.18	.18	.18
.22	.33	.33	.30½	Candelilla Wax, bags.....lb.	.....	.24	.28	.24
.....	.08	.08	.08	Carbon, Decolorizing, 40 lb bags c-1.....lb.	.08	.15	.15	.08
.....	.12	.12	.12	Black, 100-300 lb cases 1c-1 NY.....lb.	.....	.12	.12	.12
.06½	.05½	.05½	.05½	Bisulfide, 500 lb drs 1c-1 NY.....lb.	.05½	.06	.06	.05½
.....	.06	.06	.06	Dioxide, Liq, 20-25 lb cyl...lb.	.....	.06	.06	.06
.07½	.07	.07	.07	Tetrachloride, 1400 lb drs delivered.....lb.	.07	.07½	.07½	.07
.50	.50	.50	.50	Carnauba Wax, Flor, bags....lb	...	.54	.58	.54
.....	.90	.54	.60½	No. 1 Yellow, bags.....lb.	.....	.52	.60	.52
.32	.37	.24	.31	No. 2 N Country, bags.....lb.	.36	.37	.38	.34
.42½	.68	.48	.56	No. 2 Regular, bags.....lb.	.....	.50	.56	.50
.....	.....	.....	.....	No. 3 N. C.....lb	...	.30	.32	.30
.....	.....	.....	.....	No. 3 Chalky .....lb	...	.30	.32	.30
.....	.18½	.15½	.17	Casein, Standard, ground.....lb.	.16	.16½	.18½	.15
.....	.34	.26	.32½	Celluloid, Scraps, Ivory cs....lb.	.26	.30	.30	.26
.....	.18	.18	.18	Shell, cases.....lb.	.18	.20	.20	.18
.....	.34	.26	.32½	Transparent, cases.....lb.	.30	.32	.32	.30
.....	1.40	1.40	1.40	Cellulose, Acetate, 50 lb kegs..lb.	.....	1.40	1.40	1.40
.....	.03	.03	.03	Chalk, dropped, 175 lb bbls...lb.	.03	.03½	.03½	.03
.03	.02½	.02½	.02½	Precip, heavy, 560 lb cks...lb.	.....	.04½	.04½	.04½
.04	.04½	.04½	.04½	Light, 250 lb casks.....lb.	.02½	.03½	.03½	.02½
.....	.18	.18	.18	Charcoal, Hardwood, lump, bulk wks .....bu.	.18	.19	.19	.18
1918	.06	.06	.06	Willow, powd, 100 lb bbl wks.....lb.	.06	.06½	.06½	.06
.....	.04	.04	.04	Wood, powd, 100 lb bbls....lb.	.04	.05	.05	.04
.....	.03	.02½	.03	Chestnut, clarified bbls wks,..lb.	.02½	.03	.03	.02½
.04	.02	.01½	.02	25% tks wks.....lb.	.01½	.02	.02	.01½
.....	.05½	.05½	.05½	Powd, 60%, 100 lb bgs wks..lb.	.....	.04 4/5	.04 4/5	.04 4/5
.....	.06½	.06½	.06½	Powd, decolorized bgs wks..lb.	.05½	.06	.06	.05½
8.00	8.00	8.00	8.00	China Clay, lump, blk mines.ton	8.00	9.00	9.00	8.00
.....	.01½	.01½	.01½	Powdered, bbls.....lb.	.01½	.02	.02	.01½
.....	10.00	10.00	10.00	Pulverized, bbls wks.....ton	10.00	12.00	12.00	10.00
14.00	15.00	15.00	15.00	Imported, lump, bulk. ton	15.00	25.00	25.00	15.00
.....	.03	.03	.03	Powdered, bbls.....lb	.03	.03½	.03½	.03
1918	.08	.08	.08	Chlorine, cyls 1c-1 wks contract .....lb.	.08	.09	.09	.08
1917	.05½	.04	.04	Liq tank or multi-car lot cyls wks contract.....lb.	.....	.03½	.03½	.03½
1918	.07	.07	.07	Chlorobenzene, Mono, 100 lb drs 1c-1 wks.....lb.	.....	.07	.07	.07
.19	.20	.20	.20	Chloroform, tech, 1000 lb drs..lb.	.20	.22	.22	.20
.....	1.00	1.00	1.00	Chloropicrin, comml, cyls....lb.	1.00	1.35	1.35	1.00

News Notes

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1816 JULY, 1928 1928

USUAL SUMMER DULLNESS MANIFEST

We have now passed the half way post in the business race of 1928, and find ourselves entering that period of Summer quiet, due in a great measure to the slowing up of business because of vacations and warmer weather. However, business has kept up nicely and the first six months will show a decided improvement in industry over the same period a year ago. We have added a great many new accounts to our already extensive list of good customers, and are ever on the "qui vive" to add others.

Some price changes were noted during June principally among which were the rather drastic slashes in the prices of **Borax** and **Boric Acid.** Price declines ranged from ¾c to 1¼c per pound. **Formaldehyde** was the subject of a further drop of ½c per pound. The demand for **Naphthalene** both Flake and Ball is greater than the supply with prices correspondingly firm. **Acetate of Soda** is still in good demand with supplies limited.

Bichromate of Potash and **Soda** are moving well, and the new levels of prices are fairly well sustained.

Caustic Potash demand continues strong and the market is firm. Spot stocks of solid, walnut and ground are maintained.

Rightly Named

"What's that you call your mule ?"

"I call him Corporation" answered the old colored man.

"How did you come to give him such a name ?"

"Fum studyin' de animal an' readin' de papahs. Dat mule gets mo' blame an' abuse dan anyt'ing else in de township, an' goes ahead doin' his work jes de same."

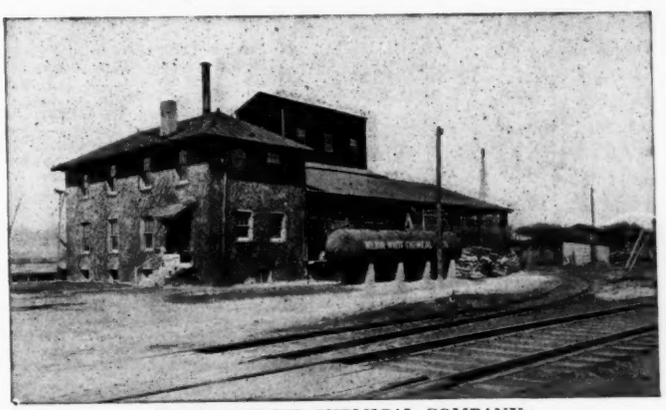
—*Exchange.*

FIFTY YEARS AGO

The year 1878 found the country well on its final reconstruction program after a period of peaceful agricultural and commercial pursuits. The centennial proclamation of President Grant in 1876 proclaimed our country's one hundredth birthday. A tradesmark treaty between the United States and the Emperor of Russia had been signed at St. Petersburg and Colorado admitted to the Union as a State.

As late as 1878, with Rutherford B. Hayes as President, about one-half of our population was engaged in agriculture. That year agricultural products totaled about $3,000,000,000 in value. Exports were $524,000,000. Industry was fast developing—and this Company after 62 years of business life was continuing its progress in the field of industrial chemistry under the leadership of George Innis.

One of the important chemical developments of the year was Baeyer's synthesizing of Indigo.



WILBUR WHITE CHEMICAL COMPANY
Subsidiary of Innis, Speiden, & Co.

EDITORIAL

One outstanding aspect of American prosperity and achievement has always been the disposition on the part of our business leaders to invest and spend with faith rather than to withhold and save with fear. A less optimistic or courageous disposition would have delayed the development of a great many of its greatest and most progressive industries.

Spend with faith—be as discriminating as you like, if you will, but avoid pound foolishness. Buy what you need, but spend with faith in order that you may grow and enjoy life; in your spending you will actually banish many of those dreads for which you now save in fear.

Our many satisfied customers have absolute faith in our Organization. They feel assured at all times that we sell chemicals of quality acceptable to those who seek the best at prices within the reach of all, combined with the best kind of service.

In addition to carrying ample stocks at all times in our various warehouses in order to render quick and efficient service to our customers, we would call attention to the products which we are constantly importing, some of which we mention as follows and which are now afloat to various Atlantic Coast ports: Calcined Carbonate of Potash, Epsom Salts, Hydrated Carbonate of Potash, Caustic Potash, Trisodium Phosphate, Zinc Chloride, Muriate of Potash, Sodium Sulphide Flake, Dibasic Phosphate of Soda, Chlorate of Potash, Gum Arabic, Magnesite, White Seal Zinc Oxide, Magnesium Chloride Crystal.

Prices Current and Comment

Standard Purchasing Power of the Dollar: July 1914 $1.00 - Jan. 1927 68.7c - July 1927 71.7c - April 1928 67.8c

sellers expect that 1928 will surpass other years from the point of total poundage moved.

Carnauba Wax — Has weakened considerably during the past month and all grades are from 2c lb. to 4c lb. lower in price. There have been large offerings and but little consuming interest. Quotations are as follows: Florentine, 54c lb.; No. 1, yellow, 52c lb.; No. 2 N. Country, 36c @ 37c lb.; No. 2 Regular, 50c lb.; No. 3 N. C., 30c lb.; and No. 3 chalky, 30c lb. Imports of vegetable wax into the United States for the first four months of 1928 amounted to only 1,427,000 pounds valued at $294,000, as compared with 4,603,000 pounds valued at $1,211,000 for the corresponding period in 1927, according to the Department of Commerce

Brazil accounts for from 45 to 60 per cent. of the quantity of our imports of vegetable wax. For the five-year period, 1922-1926, inclusive, the United States ranked first as a market for Brazilian wax exports, but the tendency, however, has been for the United States to take less and Germany more annually from this source.

Candelilla wax from Mexico is another important wax import, the largest quantities ever imported from Mexico being 860,000 pounds in 1923 and 731,000 pounds in 1926.

Our wax imports for the six-year period 1922-1927 were as follows: 1922, 7,706,000 pounds, valued at $1,221,000; 1923, 9,739,000, $1,382,000; 1924, 7,865,000 pounds, $1,293,000; 1925, 6,507,000, $1,310,000; 1926, 8,234,000, $2,250,000, and 1927, 10,150,000, $2,627,000.

Casein — Has moved into a very strong position and standard ground has advanced 1c lb. in price during the past month. Wet weather and an unfavorable winter in the Argentine are said to have sharply limited production. A shortage has become evident in the primary market and is said to be becoming more acute all the time. The following statement from the Department of Commerce, regarding an organization of producers to stabilize the market, although favored by factors here, is said by them to have but little chance of accomplishment. They say that movements of similar nature have been advocated for years but it has always seemed impossible to find a practical solution for bringing producers together.

"At a meeting of casein producers, held under the auspices of the Sociedad Rural, Senor Duhau pointed out that Argentina produced 75 per cent. of the casein manufactured for export. It appears that the prices for this product are

1914	1927				Current	1928	
July	High	Low	Aver.		Market	High	Low
.17	.27	.26	.26¼	Chrome, Green, CP.....lb.	.26	.29	.29	.26
.03½	.06½	.06½	.06½	Commercial.....lb.	.06½	.11	.11	.06½
.11	.17½	.16½	.16½	Yellow.....lb.	.15½	.16½	.17	.15½
.....	.05	.04½	.04½	Chromium, Acetate, 8% Chrome bbls.....lb.	.04½	.05½	.05½	.04½
1918	.05½	.05½	.05½	20° soln, 400 lb bbls.....lb.	.....	.05½	.05½	.05½
.....	.27	.27	.27	Fluoride, powd, 400 lb bbl..lb.	.27	.28	.28	.27
.....	.34½	.34½	.34½	Oxide, green, bbls.....lb	.34½	.35½	.35½	.34½
.....	9.50	9.00	9.08	Coal tar, bbls.....bbl	9.00	9.50	9.50	9.00
1.00	2.10	2.10	2.10	Cobalt Oxide, black, bags....lb.	2.10	2.22	2.22	2.10
.48	.92	.77	.85¾	Cochineal, gray or black bag..lb.	.84	.87	.87	.84
.42	.92	.77	.87½	Teneriffe silver, bags.....lb.	.....	.86	.86	.86
13.75	13.57½	12.90	12.97	Copper, metal, electrol...100 lb.	.....	14.75	14.75	12.90
.13½	.16½	.16½	.16½	Carbonate, 400 lb bbls.....lb.	.16½	.17½	.17½	.16½
.....	.28	.28	.28	Chloride, 250 .lb bbls.....lb.	.....	.28	.28	.28
.....	.48	.48	.48	Cyanide, 100 lb drs.....lb.	.48	.50	.50	.48
.....	.16½	.16½	.16½	Oxide, red, 100 lb bbls.....lb.	.16½	.17	.17	.16½
.28	.18	.17	.18	Sub-acetate verdigris, 400 lb bbls.....lb.	.18	.19	.19	.18
4.00	5.00	4.75	4.91½	Sulfate, bbls c-l wks...100 lb.	....	5.30	5.30	5.05
13.00	17.00	13.00	13.33½	Copperas, crys & sugar bulk c-l wks.....ton	13.00	14.00	14.00	13.00
.....	1.25	1.25	1.25	Sugar, 100 lb bbls.....100 lb.	1.25	1.35	1.35	1.25
.80	.40	.40	.40	Cotton, Soluble, wet, 100 lb bbls.....lb.	.40	.42	.42	.40
.....	42.00	20.00	33.75	Cottonseed, S.E. bulk c-l...ton	.....	.....	.....	.....
.....	42.00	20.00	29.85	Meal S.E. bulk.....ton	.....	.....	.....	.....
26.50	35.00	21.50	30.38	7% Amm., bags mills...ton	36.00	37.00	37.00	36.00
.23½	.27	.22	.24	Cream Tartar, USP, 300 lb. bbls.....lb.	.26	.27½	.27½	.26
.53	.40	.40	.40	Creosote, USP, 42 lb cbys.....lb.	.40	.42	.42	.40
1918	.20	.20	.20	Oil, Natural, 50 gal drs....gal.	.17	.19	.19	.17
1918	.25	.25	.25	10-15% tar acid.....gal.	.21	.23	.23	.21
				25-30% tar acid.....gal.	.25	.28	.28	.25
1918	.17½	.17½	.17½	Cresol, USP, drums.....lb.	.17½	.20	.20	.17½
.07½	.17	.16	.16½	Cudbear, English.....lb.	.16	.17	.17	.16
.05	.18½	.15	.18	Cutch, Rangoon, 100 lb bales.lb.	.....	.18½	.18½	.18½
.....	.05	.05½	.05½	Borneo, Solid, 100 lb bale...lb.	.06	.07	.07	.06
.....	1.82½	1.67½	1.78½	Cyanamide, bulk c-l wks Amm. .....lb.	.....	1.70	1.75	1.67½
.....	3.92	3.77	3.84½	Dextrin, corn, 140lb. bags 100 lb.	4.92	5.12	5.12	3.77
3.00	3.87	3.72	3.78½	White, 130 lb bgs.....100 lb.	4.87	5.07	5.07	3.72
.05½	.08½	.08½	.08½	Potato, yellow, 220 lb bgs...lb.	.08	.09	.09	.08
.05½	.08½	.08½	.08½	White, 220 lb bags 1c-l....lb.	.08	.09	.09	.08
.....	.08½	.08	.08	Tapioca, 200 lb bags 1c-l...lb.	.08	.08½	.08½	.08
.....	3.80	3.80	3.80	Diaminophenol, 100 lb kegs...lb.				
.....	2.95	2.85	2.93½	Diamylphthalate, drs wks...gal.	.....	3.80	3.80	3.80
.....	3.25	3.25	3.25	Dianisidine, 100 lb kegs.....lb.	2.85	2.90	2.90	2.85
.....	.31½	.29½	.30½	Dibutylphthalate, wks.....lb.	.....	.28	.28	.28
.....	.55	.55	.55	Dibutyltartrate, 50 gal drs....lb.	.29½	.31½	.31½	.29½
.....	.23	.23	.23	Dichloromethane, drs wks....lb.	.55	.65	.65	.55
.....	2.15	2.15	2.15	Diethylamine, 400 lb drs.....lb.	.23	.25	.25	.23
.....	1.85	1.85	1.85	Diethyl carbonate, drs.....gal.	.....	2.15	2.15	2.15
1918	.55	.55	.55	Diethylaniline, 850 lb drs.....lb.	1.85	2.00	2.00	1.85
.....	.20	.20	.20	Diethyleneglycol, drs.....lb.	.55	.60	.60	.55
.....	.....	.....	.....	Mono ethyl ether, drs....lb	.10	.12	.12	.10
.....	.....	.....	.....	Mono butyl ether, drs....lb.	.25	.35	.35	.25
.....	.64	.64	.64	Diethylorthotoluidin, drs.....lb.	.64	.67	.67	.64
.....	.25	.25	.25	Diethyl phthalate, 1000 lb drums.....lb.	.24	.26	.26	.24
.....	.30	.20	.25	Diethylsulfate, technical, 50 gal drums.....lb.	.30	.35	.35	.30
.....	2.60	2.60	2.60	Dimethylamine, 400 lb drs....lb.	.....	2.62	2.62	2.62
1918	.32	.30	.31½	Dimethylaniline, 340 lb drs...lb	.30	.32	.32	.30
.....	.45	.45	.45	Dimethylsulfate, 100 lb drs...lb.	.45	.50	.50	.45
1918	.15½	.15	.15½	Dinitrobenzene, 400 lb bbls...lb.	.15½	.16½	.16½	.15½
.....	.18	.18	.18	Dinitrochlorine, 300 lb bbl....lb.	.18	.19	.19	.18
1918	.15	.15	.15	Dinitrochlorobenzene, 400 lb. bbls.....lb.	.15	.16	.16	.15
1917	.32	.32	.32	Dinitronaphthalene, 350 lb bbls .....lb.	.32	.34	.34	.32
1918	.31	.31	.31	Dinitrophenol, 350 lb bbls....lb.	.31	.32	.32	.31
1918	.18	.15	.17¾	Dinitrotoluene, 300 lb bbls....lb.	.18	.19	.19	.18
.....	1.05	.85	.88	Diorthotolyguanidine, 275 lb bbls wks.....lb.	.48	.49	.90	.48
1918	.48	.45	.45½	Diphenylamine.....lb.	.45	.47	.47	.45
.....	.....	.....	.....	Diphenylguanidine, 100 lb bbl.lb.	.40	.41	.72	.40
.....	.26	.26	.26	Dip Oil, 25%, drums.....lb.	.2¢	.30	.30	.26
45.00	49.00	41.00	45.25	Divi Divi pods, bgs shipmt...ton	.....	58.00	62.00	58.00
.02½	.04	.04	.04	Extract.....lb.	.05	.05½	.05½	.05
1918	.84	.72	.67½	Egg Yolk, 200 lb cases.....lb.	.78	.80	80	.73
1.00	2.00	1.75	1.87½	Epsom Salt, tech, 300 lb bbls c-l NY.....100 lb.	1.70	1.75	1.75	1.70
.22	.45	.37	.43	Esther, USP, 1880, 50 lb drs..lb.	.37	.38	.38	.37
.....	.90	.90	.90	Ethyl Acetate, 85% Ester, 110 gal drs.....gal.	.82	.87	.82	.75
.....	1.10	1.03	1.08	99%, gal drums.....gal.	.....	1.10	1.10	1.10
.....	1.05	1.05	1.05	Benzylaniline, 300 lb drs...lb.	1.05	1.11	1.11	1.05
.....	.50	.50	.50	Bromide, tech, drums.....lb.	.....	.70	.70	.70
.....	.22	.22	.22	Chloride, 200 lb. drums....lb.	.....	.22	.22	.22
.....	3.50	3.50	3.50	Lactate, drums works.....lb.	.30	.35	3.50	3.50
1918	.30	.30	.30	Methyl Ketone, 50 gal drs..lb.	.....	.30	.30	.30
.....	.45	.45	.45	Oxalate, drums works.....lb.	.45	.55	.55	.45
.....	.....	.....	.....	Oxybutyrate, 50 gal drs. wks. lb.	.30	.36	.36	.30
.....	.70	.70	.70	Ethylene Bromide, 600 lb dr..lb.	.....	.7C	.70	.70
.....	.75	.75	.75	Chlorhydrin, anhydrous, 50 gal drums.....lb.	.75	.85	.85	.75
.....	.15	.11	.11¼	Dichloride, 50 gal drums...lb.	.07	.10	.11	.07
.....	.30	.30	.30	Glycol, 50 gal drs wks.....lb.	.27	.30	.40	.25
.....	.....	.....	.....	Mono Butyl Ether drs. wks.	.27	.31	.27	.31
.....	.....	.....	.....	Mono Ethyl Ether drs. wks.	.20	.24	.20	.24
.....	.....	.....	.....	Mono Ethyl Ether Acetate dr. wks.	.23	.26	.23	26.
1918	.62	.62	.62	Ethylidenaniline.....lb.	.62	.65	.65	.62
8.00	20.00	20.00	20.00	Feldspar, bulk.....ton	20.00	25.00	25.00	20.00
.....	15.00	15.00	15.00	Powdered, bulk works.....ton	15.00	21.00	21.00	15.00
.....	.07½	.07½	.07½	Ferric Chloride, tech, crystal 475 lb bbls.....lb.	..07½	.09	.09	.07½



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Prices Current and Comment

Standard Purchasing Power of the Dollar: July 1914 $1.00 - Jan. 1927 68.7c - July 1927 71.7c - April 1928 67.8c

not controlled by the producers, who have suffered from the activities of foreign speculators. Senor Duhau recommended, therefore, that the Argentine producers and sellers form an organization to control the exports of casein and stabilize prices. Furthermore, he said, it would enable them to increase the price and avoid the risk of an elevation of the American tariff barriers. He concluded by stating that American paper manufacturers, who buy most of the casein, are interested in obtaining a stabilization of prices."

Chlorine — With withdrawal business somewhat cut down by the dullness in the textile industry, there has not been anything out of the ordinary to comment on concerning this article for the month of June. There has been some slight increase in business from the water purification people, but otherwise the market in common with many other items is feeling the annual summer let down.

Copper Carbonate — With the usual seasonal demand there has been a slight increase in shipments during the closing weeks in June. No change in price has taken place since the last active period, despite the activity in copper and copper sulfate, and sales are reported from 17c @ 17¼c lb. as to seller.

Copper Sulfate — The peak of the season has been reached and at this writing there is a noticeable let down in the demand which has taxed the capacity of producing units in the East since the first of the current year, Sellers are still quite busy taking care of shipments which were arranged for during the Spring months and the pressure which has been on the market since the Spring is expected to carry on well into September. There seems little doubt that the market will carry through to the Fall demand for export at current levels of %5.30 100 lbs., for at this price it is really cheaper, based on the copper market to-day, than was the case last year when the market was quoted at $4.95 100 lbs. on a much lower raw material market.

Dextrin — Another advance recently in the grain market moved dextrin up to a new high for the year, and the market continues strong. Corn is now at $4.92 @ $5 12 per 100 lbs. and white at $4.87 @ $5.07 per 100 lbs.

Divi Divi.— Increased supplies in the spot market have brought about further decline in prices during the past month. Pods are now quoted at $58.00 per ton.

Egg Yolk — A purely temporary shortage existing in spot supplies has placed prices for this commodity at a new high for the year. Now quoted at 78c @ 80c lb., which condition is likely to continue

1914 July	1927 High	1927 Low	1927 Aver.		Current Market	1928 High	1928 Low
2.80	5.60	4.15	4.69	Fish Scrap, dried, wks.....unit	..... 5.50&10	5.50&10	5.25&10
				Acid, Bulk 7 & 3½% delivered			
2.50	3.50	4.24	3.56¼	Norfolk & Balt. basis...unit	..... 4.75&50	4.75&50	47.5&50
.40	1.10	.90	1.01¼	Flavine, lemon, 55 lb cases...lb.	1.10	1.15	1.15	1.10
.40	1.10	.85	.89	Orange, 70 lb cases.....lb.	1.10	1.15	1.15	1.10
.....				Flavseed.....lb.				
.....	25.00	25.00	25.00	Fluorspar, 95%, 220 lb bags...lb.	.....	.....	.....	.....
.....	.....	.....	.....	Ex-dock.....ton	.....	.....	.....	.....
				Formaldehyde, aniline, 100 lb.	.....	25.00	25.00	25.00
.....	.39	.39	.39	drums.....lb.	.39	.42	.42	.39
.08½	.11½	.08½	.10	USP, 400 lb bbls 1c-1 wks...lb.	.08½	.09	.09	.08½
.....	.02½	.02½	.02½	Fossil Flour.....lb.	.02½	.04	.04	.02½
.....	15.00	15.00	15.00	Fullers Earth, bulk, mines...ton	15.00	20.00	20.00	15.00
.....	25 00	25.00	25.00	Imp, powd c-1 bags.....ton	25.00	30.00	30.00	25.00
.....	.17½	.17½	.17½	Furfural, 500 lb drums.....lb.	.17½	.19½	.19½	.17½
1.10	1.69	1.35	1.59	Fusel Oil, 10% impurities....gal.	.....	1.35	1.35	1.35
.01½	.04	.04	.04	Fustic, chips.....lb.	.04	.05	.05	.04
.....	.20	.20	.20	Crystals, 100 lb boxes.....lb	.20	.22	.22	.20
.06	.09	.09	.09	Liquid, 50°, 600 lb bbls....lb.	.09	.10	.10	.09
.08	.20	.20	.20	Solid, 50 lb boxes.....lb.	.20	.23	.23	.20
12.00	30.00	30.00	30.00	Sticks.....ton	30.00	32.00	32.00	30.00
1918	.50	.50	.50	G Salt paste, 360 lb bbls.....lb.	.50	.52	.52	.50
.12	.20	.20	.20	Gall Extract.....lb.	.20	.21	.21	.20
.04½	.08	.06	.....	Gambier, common 200 lb cs...lb.	.08	.09	.09	.08
1917	.12	.12	.12	25% liquid, 450 lb bbls....lb.	.12	.14	.14	.12
.05½	.23	.11	.17	Singapore cubes, 150 lb bg..lb.	.11	.12	.12	.11
.....	.45	.30	.43½	Gelatin, tech, 100 lb cases....lb.	.45	.50	.50	45
.....	3.14	3.14	3.14	Bags, c-1 NY.....100 lb.	3.14	3.24	3.24	3.14
				Glauber's Salt, tech, 250 lb bags				
.60	1.05	1.05	1.05	c-1 wks.....100 lb.	.70	1.05	1.05	.70
				Glucose (grape sugar) dry 70-				
.....	3.24	3.24	3.24	80° bags c-1 NY....100 lb.	3.24	3.34	3.34	3.24
				Tanner's Special, 100 lb bags				
.....	3.14	3.14	3.14	.....100 lb.	.....	3.14	3.14	3.14
.12	.20	.20	.20	Glue, medium white, bbls....lb.	.20	.24	.24	.20
.18	.22	.22	.22	Pure white, bbls.....lb.	.22	.26	.26	.22
.19½	.29	.22	.24	Glycerin, CP, 550 lb drs.....lb.	.15	.15½	.19	.15
.19½	.25	.17	.21½	Dynamite, 100 lb drs.....lb.	.12½	12½	.15	.11½
.....	.....	.....	.....	Saponification, tanks.....lb.	.08½	.08½	.10½	.08½
.....	.....	.....	.....	Soap Lye, tanks.....lb.	.07½	.07½	.09½	.07½
.....	15.00	15.00	15.00	Graphite, crude, 220 lb bgs..ton	15.00	35.00	35.00	15.00
.....	.05	.05	.05	Flake, 500 lb bbls.....lb.	.06	.09	.09	.06

Gums

				Gum Accroides, Red, coarse and				
.....	.03½	.03½	.03½	fine 140-150 lb bags....lb.	.03½	.04½	.04½	.03½
.....	.06	.06	.06	Powd, 150 lb bags.....lb.	.06	.06½	.06½	.06
.....	.18	.18	.18	Yellow, 150-200 lb bags..lb.	.18	.20	.20	.18
				Animi (Zanzibar) bean & pea				
.25	.40	.35	.39	250 lb cases.....lb.	.35	.40	.40	.35
.....	.60	.50	.57½	Glassy, 250 lb cases.....lb.	.50	.55	.55	.50
				Asphaltum ,Barbadoes				
.05	.09	.09	.09	(Manjak) 200 lb bags..lb	.09	.12	.12	.09
.15	.15	.15	.15	Egyptian, 200 lb cases.....lb.	.15	.17	.17	.15
				Gilsonite Selects, 200 lb bags				
36.00	55.00	55.00	55.00	.....ton	58.00	65.00	65.00	55.00
				Damar Batavia standard 136,				
.17½	.26½	.26½	.25	lb cases.....lb.	.23	.23½	.23½	.23
.....	.10½	.07	.10	Batavia Dust, 160 lb bags..lb.	.10½	.11	.11	.10½
.....	.18½	.17½	.18½	E Seeds, 136 lb cases....lb.	.17	.17½	.17½	.17
				F Splinters, 136 lb cases and				
.....	.14	.09	.13	bags.....lb.	.14	.14½	.14½	.14
.....	.34	.33½	.34	Singapore, No. 1, 224 lb caseslb.	.29½	.30	.30½	.29½
.14	.22½	.21	.22½	No. 2, 224 lb cases.....lb.	.23	.23½	.23½	.20
.08	.14	.11	.12	No. 3, 180 lb bags.....lb.	.13½	.14	.15	.13½
				Benzoin Sumatra, technical, 120				
.34	.35	.30	.30	lb cases.....lb.	.33	.35	.35	.33
				Copal Congo, 112 lb bags, clean				
.....	.14	.12	.13	opaque.....lb.	.14	.15	.15	.14
.12	.08½	.08½	.08½	Dark, amber.....lb.	.08½	.09	.09	.08½
.18	.12½	.12½	.12½	Light, amber.....lb	.12½	.14	.14	.12½
.25	.35	.35	.35	Water white.....lb	.35	.36	.36	.35
				Mastic .....lb.	.58	.60	.60	.58
				Manila, 180-190 lb baskets				
.15	.16	.16	.16	Loba A.....lb.	.16	.16½	.16½	.16
.....	.15	.15	.15	Loba B.....lb.	.15	.15½	.15½	.15
.....	.14½	.13	.13½	Loba C.....lb.	.13	.13½	.13½	.13
.....	.16	.16	.16	Pale bold, 224 lb cs.....lb.	.16	.18	.18	.16
.08½	.14	.12	.13	Pale nubs.....lb.	.12	.12½	.12½	.12
.....	.07½	.07½	.07½	East Indies chips, 180lb bagslb.	.08	.08½	.08½	.07½
.....	.....	.....	.....	Pale bold, 180 lb bags.. .lb.	.17	.17½	.17½	.17
.....	.17	.17	.17	Pale nubs.....lb.	.14	.14½	.14½	.14
.....	.....	.....	.....	Pontianak, 224 lb cases....lb.				
.13½	.29	.25	.26½	Pale bold gen No. 1.....lb.	.25	.25½	.25½	.25
.07	.19	.13	.15½	Pale gen chips spot.....lb.	.13	.14½	.14½	.13
.....	.14	.13	.13½	Elemi, No. 1, 80-85 lb cs...lb.	.13½	.14	.14	.13
.....	.13	.12	.12½	No. 2, 80-85 lb cases.....lb.	.13	.13½	.13½	.13
.....	.13	.11	.11	No. 3, 80-85 lb cases.....lb.	.12	.13	.13	.12
				Kauri, 224-226 lb cases No. 1				
.50	.67½	.57	.63½	.....lb.	.50	.57	.57	.50
.32	.44½	.38	.41	No. 2 fair pale.....lb.	.35	.38	.38	.35
				Brown Chips, 224-226 lb				
.07½	.14½	.10	.12	cases.....lb.	.10	.12	.12	.10
.....	.42	.38	.40	Bush Chips, 224-226 lb				
				cases.....lb.	.38	.40	.40	.38
				Pale Chips, 224-226 lb cases				
.....	.31½	.24½	.25	.....lb.	.24½	.26	.26	.24½
				Sandarac, prime quality, 200				
.19	.27	.25	.25	lb bags & 300 lb casks...lb.	.26	.27	.27	.26
1917	.12	.12	.12	Hematine crystals, 400 lb bbls.lb.	.17	.20	.20	.17
1917	.09	.09	.09	Paste, 500 bbls.....lb	.....	.11	.11	.11
.02½	.03½	.03½	.03½	Hemlock 25%, 600 lb bbls wks lb.	.03½	.03½	.03½	.03½
.....	16.00	16.00	16.00	Bark.....ton	.....	16.00	16.00	16.00
.....	.60	.45	.56	Hexalene, 50 gal drs wks.....lb.	.....	.60	.60	.60
.....	.80	.62	.72	Hexamethylenetetramine, drs.lb.	.62	.65	.65	.62
2.60	3.35	2.75	3.08	Hoof Meal, fob Chicago.....unit	.....	4.00	4.00	4.00

SUGGESTIONS

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Mesityl Oxide
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Prices Current and Comment

Standard Purchasing Power of the Dollar: July 1914 $1.00 - Jan. 1927 68.7c - July 1927 71.7c - April 1928 67.8c

until the arrival of replacements about the end of this month. Although stocks here have temporarily been exhausted, there is no sign of shortage in China.

Ethyl Acetate — Does not appear to be suffering from any general Summer let down and has held up well over the month with leading producers reporting sales late in the month at 82c @ 85c gal. as to quantity.

Fish Scrap — Has been experiencing fair demand and prices have advanced during the past month. Dried is now quoted at $5.50 & 10 per unit, and acid at $4.75 & 50 per unit.

Glauber Salts — The past four weeks has not witnessed any strengthening in the market and it continues extremely soft in all directions, this being especially true of New England, where imported goods are obtainable at levels sharply lower than the price which sellers have been trying to obtain in the Metropolitan district.

Glycerin — There has not been any change in the basic situation on dynamite over the month, with the possible exception that the market was quieter than its usually quiet self during the closing days. Sellers continue to name 12½c lb., but it is very doubtful if a buyer could be found to pay this level. The market is generally regarded as nominal at that level, lacking sales to establish a definite market figure. Disturbing rumors—to the producers—of the output of the Deepwater alcohol plant are heard and while no official announcement has been made as to the capacity, it has not added stimulus to the strength of the dynamite market. Crude soap lye is unchanged at 7½c lb. as is saponification at 8½c lb.

Gums — All grades of Singapore have changed in price during the past month, No. 2 having advanced, and No. 1 and No. 3 having declined. Now quoted at 23c & 23½c lb., 29½c @ 30c lb., and 13½c @ 14c lb. respectively.

Japan Wax — Accumulation of unsold stocks has lead to declines in price during the past month. Now quoted at 17c lb.

Magnesium Chloride — Sellers are doing as brisk a business as they would like for this season of the year, but this is partially explained by the trend toward colored structures which precludes the use of magnesium chloride as an ingredient. This is looked on as a passing fancy and sellers are optimistic as to the future of the market.

Mercury — As indicated in our report of last month, the advance in price at that time was not predicated on any sound consuming demand and the past month witnessed a falling off again to a level of $121.00 @ $122.00 flask, this also with a better consuming demand in evidence

1914 July	1927 High	1927 Low	1927 Aver.		Current Market	1928 High	1928 Low
.....	3.90	3.00	3.57	South Amer. to arrive....unit	.....	.....	.....
.....	.30	.22	.24	Hydrogen Peroxide, 100 vol, 140 lb cbys.....lb.	.24	.26	.26
1917	.12	.12	.12	Hpyernic, 51°, 600 lb bbls....lb.	.12	.15	.15
.58	1.28	1.20	1.27	Indigo Madras, bbls.....lb.	1.28	1.30	1.30
.....	.14	.14	.14	20% paste, drums.....lb.	.14	.15	.15
.....	.07½	.07½	.07½	Solid, powder.....lb.	.07½	.08	.08
				Iron Chloride, see Ferric or Ferrous			
.04	.09	.09	.09	Iron Nitrate, kegs.....lb.	.09	.10	.10
1.12½	2.50	2.50	2.50	Coml, bbls.....100 lb.	2.50	3.25	3.25
.....	.10	.10	.10	Oxide, English.....lb.	.10	.12	.12
.....	.02½	.02½	.02½	Red, Spanish.....lb.	.02½	.03½	.03½
.....	.85	.85	.85	Isopropyl Acetate, 50 gal drs.gal.	.85	.90	.90
.11½	.29	.17	.19	Japan Wax, 224 lb cases.....lb.	.....	.17	.19
.....	60.00	60.00	60.00	Kieselguhr, 95 lb bgs NY....ton	60.00	70.00	70.00
.....	14.00	13.00	13.33	Lead Acetate, bbls wks...100 lb.			
9.12½	14.00	13.00	13.33	White crystals, 500 lb bbls wks.....100 lb.	13.00	13.50	13.50
.04½	.15½	.13½	.13	Arsenate, drs 1c-1 wks.....lb.	.13	.15	.15
3.90	7.80	6.20	6.78	Metal, c-1 NY.....100 lb.	.....	6.10	6.25
.07½	.14	.14	.14	Nitrate, 500 lb bbls wks....lb.	.....	.14	.14
.17½	.17½	.17½	.17½	Oleate, bbls.....lb.	.17½	.18	.18
.....	.10½	.08½	.09	Oxide Litharge, 500 lb bbls..lb.	.....	.08½	.08½
.05½	.11½	.09½	.10	Red, 500 lb bbls wks.....lb.	.....	.09½	.09½
.05½	.09½	.09	.09½	White, 500 lb bbls wks...lb.	.....	.09	.09
.05	.09	.08½	.08½	Sulfate, 500 lb bbls wk...lb.	.....	.08½	.08½
.....	4.50	4.50	4.50	Lime, ground stone bags....ton	.....	4.50	4.50
.....	1.05	1 05	1.05	Live, 325 lb bbls wks..100 lb.	.....	1.05	1.05
				Lime Salts, see Calcium Salts			
1918	.15	.15	.15	Lime-Sulfur soln bbls.....gal.	.15	.17	.17
.03½	.06½	.06½	.06½	Lithopone, 400 lb bbls 1c-1 wks .....lb.	.....	.06½	.06½
.05	.08½	.08½	.08½	Logwood, 51°, 600 lb bbls.....lb.	.08½	.08½	.08½
.01½	.03	.03	.03	Chips, 150 lb bags.....lb.	.03	.03½	.03½
.06	.12	.12	.12	Solid, 50 lb boxes.....lb.	.....	.12½	.12½
15.00	26.00	26.00	26.00	Sticks.....ton	26.00	27.00	27.00
.....	.07½	.07½	.07½	Lower grades.....lb.	.07½	.08	.08
.12	.30	.30	.30	Madder, Dutch.....lb.‡	.....	.30	.30
30.00	48.00	48.00	48.00	Magnesite, calc, 500 lb bbl..ton	48.00	50.00	50.00

Magnesium

				Magnesium Carb, tech, 70 lb			
1918	.06½	.06	.06	bags NY.....lb.	.06	.06½	.06½
				Chloride flake, 375 lb drs c-1			
.....	37.00	37.00	37.00	wks.....ton	.....	37.00	37.00
.....	33.00	33.00	33.00	Imported shipment...ton	.....	33.00	33.00
.....	31.00	31.00	31.00	Fused, imp, 900 lb bbls NY ton	.....	31.00	31.00
				Fluosilicate, crys, 400 lb bbls			
.....	.10	.10	.10	wks.....lb.	.10	.10½	.10½
				Oxide, USP, light, 100 lb bbls			
.....	.42	.42	.42	.....lb.	.....	.42	.42
.....	.50	.50	.50	Heavy, 250 lb bbls.....lb.	.....	.50	.50
.....	.12½	.09½	.11½	Silicofluoride, bbls.....lb.	.09½	.10½	.10½
.....	.23	.23	.23	Stearate, bbls.....lb.	.23	.25	.25
				Manganese Borate, 30%, 200 lb			
.20	.24	.24	.24	bbls.....lb.	.....	.24	.24
.06	.08	.08	.08	Chloride, 600 lb casks.....lb.	.08	.08½	.08½
.....	.05	.04½	.04½	Dioxide, tech (peroxide) drs.lb.			
				Ore, powdered or granular	.35	.40	.50
.....	.03	.03	.03	75-80%, bbls.....lb.	.03	.03½	.03½
.....	.04	.04	.04	80-85%, bbls.....lb.	.04	.04½	.04½
.....	.05	.05	.05	85-88%, bbls.....lb.	.05	.05½	.05½
.....	.07	.07	.07	Sulfate, 550 lb drs NY.....lb.	.07	.07½	.07½
.....	.03½	.03½	.03½	Mangrove 55%, 400 lb bbls...lb.	.03½	Nom.	Nom.
.....	39.00	34.00	37.54	Bark, African.....ton	.....	42.00	45.00
8.00	10.00	10.00	10.00	Marble Flour, bulk.....ton	10.00	12.00	12.00
1916	129.00	99.00	119.09	Mercury metal.....75 lb flask	121.00	122.25	127.50
1918	.72	.72	.72	Meta-nitro-aniline .....lb.	.72	.74	.74
				Meta-nitro-para-toluidine 200 lb			
1918	1.70	1.70	1.70	bbls.....lb.	1.70	1.80	1.80
				Meta-phenylene-diamine 300 lb			
1918	.90	.90	.90	bbls.....lb.	.90	.94	.94
				Meta-toluene-diamine, 300 lb			
1918	.72	.72	.72	bbls.....lb.	.72	.74	.74
.4	.....	.....	.....	Methanol, (Wood Alcohol), drs			
.45	.80	.55	.69	95%.....gal.	.46	.50	.55
.50	.87	.57	.74½	97%, drums 1c-1.....gal.	.47	.50	.57
.....	.....	.....	.....	Pure, drums 1c-1.....gal.	.44	.48	.58
.....	.....	.....	.....	Synthetic, drums 1c-1.....gal.	.48	.50	.58
.....	.80	.75	.78	Denat. grd. tanks.....gal.	.45	.47	.75
.....	.95	.95	.95	Methyl Acetate, drums.....gal.	.....	.95	.95
.....	.88	.75	.66	Acetone, 100 gal drums...gal.	.68	.70	.80
.....	1.00	.85	.92½	Anthraquinone, kegs.....lb.	.85	.95	.95
.....	.55	.55	.55	Chloride, 90 lb cyl.....gal.	.55	.60	.60
.....	.03½	.03½	.03½	Mica, dry grd. bags wks.....lb.	65.00	80.00	80.00
.....	.05½	.05½	.05½	Wet, ground, bags wks....lb.	110.00	115.00	115.00
.....	3.00	3.00	3.00	Michler's Ketone, kegs.....lb.	....	3.00	....
				Monochlorobenzene, drums see, Chlorobenzene, mono.....lb.			
.....	.70	.70	.70	Monoethylorthotoluidin, drs..lb.	.70	.75	.75
				Monomethylaniline, 900 lb dr			
1918	1.05	1.05	1.05	.....lb.	.....	1.05	1.05
				Monomethylparaminosulfate 100			
.....	3.95	3.95	3.95	lb drums.....lb.	3.95	4.20	4.20
.06½	.06½	.06½	.06½	Montan Wax, crude, bags....lb.	.06½	.07	.07
.....	.04	.04	.04	Myrobalans 25%, liq bbls.....lb.	.04½	.04½	.04½
.....	.08	.08	.08	50% Solid, 50 lb boxes.....lb.	.08	.08½	.08½
27.00	43.50	41.00	42.00	J 1 bags.....ton	44.00	45.50	50.00
27.00	37.00	23.50	35.24	J 2 bags.....ton	.....	38.00	40.00
27.00	37.00	30.00	36.62	R 2 bags.....ton	.....	38.00	40.00
				Naphtha, v. m. & p. (deodorized)			
.10	.21	.18	.19½	bbls.....gal.	.....	.18	.18



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Prices Current and Comment

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than was the case at the time of the advance in May. Stocks in Europe are still of large proportions and while there are no definite signs of weakness on this market, advance at this time would be surprising.

Methanol — Several sellers seem in agreement that the tone of the market is better than has been the case for some time past. Included in this category is one seller who has regularly admitted that the market lacked strength. There has not been any better call for methanol and the firmer movement seems an effort on the part of sellers to get a price more nearly in accordance with their ideas of the correct market levels. As yet there has not been an advance, simply improved undertone.

Methyl Acetone — Is still the subject of much competitive effort for business on the sellers part with the result that sellers admit to selling as low as 68c gal. in some directions in the last few days in June. Consuming interest is not at all brisk at the time of going to press.

Nitrogenous Material — Has been in good demand during the past month and has advanced to $3.90 per unit.

Phenol — While there are no further outward signs of a change in the phenol price and sellers none too enthusiastically state that the market is fairly well held and that some sustained buying would tend to hold the market up, it is more than suspected that a firm order at 13c lb. would draw offers from practically all holders of the heavy stocks.

Rosin — Has been firm and with a consistently higher price tendency during the past month. All grades are consequently from 70c per unit to $1.55 per unit higher than when last reported. There has been considerable buying interest and the shortage of this season's crop has lead to firm undertones in the market. Exports of naval stores, gums and resins from the United States during May continued at a lower rate than in 1927, with a total value reported as $2,328,454, as compared with exports valued at $3,045,943 in May, 1927. Exports during the first five months this year are valued at $8,508,575, a reduction of $3,341,056 below the figure for the corresponding period of 1927.

There was an increase in the volume of exports of gum rosin during May, with the total for the month reported as 103,686 barrels of 500 pounds each, as compared with exports of 98,354 barrels exported during May, 1927. The slightly greater volume of exports last May, however, brought about $265,000 smaller return

1914 July	1927 High	1927 Low	1927 Aver.		Current Market	1928 High	1928 Low
				Naphthalene balls, 250 lb bbls			
.02⅜	.06	.05½	.05⅞	wks.....lb.	.....	.05½	.06 .05½
.....	.04½	.04½	.04½	Crushed, chipped bgs wks..lb.	.....	.04½	.04½ .04½
.02⅜	.05	.04½	.04¾	Flakes, 175 lb bbls wks.....lb.	.....	.05	.05 .05
.....	.21	.21	.21	Nickel Chloride, bbls kegs....lb.	.21	.24	.24 .21
1918	.35	.35	.35	Oxide, 100 lb kegs NY.....lb.	.35	.38	.38 .35
1918	.09	.08½	.08⅞	Salt dbl, 400 lb bbls NY....lb.	.09	.09½	.09½ .09
1918	.08¾	.08	.08⅛	Single, 400 lb bbls NY.....lb.	.08¾	.09	.09 .08¾
				Nicotine, free 40%, 8 lb tins,			
.....	1.25	1.10	1.24	cases.....lb.	1.25	1.30	1.30 1.25
.....	1.10	1.10	1.10	Sulfate, 10 lb tins.....lb.	1.10	1.15	1.15 1.10
.....	13.00	13.00	13.00	Nitre Cake, 500 lb bbls.....ton	13.00	14.00	14.00 13.00
				Nitrobenzene, redistilled, 1000			
.06½	.10½	.09½	.09¾	lb drs wks.....lb.	.10½	.10½	.10½ .10½
				Nitrocellulose, regular drums			
.....	.40	.40	.40	wks.....lb.	.40	Nom.	Nom. .40
				Low viscosity (soln only)			
.....	.55	.55	.55	Grade 1 drums, wks.....lb.	.55	Nom.	Nom. .55
.....	.50	.50	.50	Grade 2 drums, wks.....lb.	.50	Nom.	Nom. .50
3.05	3.60	3.35	3.53	Nitrogenous Material, bulk..unit	.....	3.90	4.00 3.35
1918	.25	.25	.25	Nitronaphthalene, 550 lb bbls.lb.	.....	.25	.25 .25
1918	.14	.14	.14	Nitrotoluene, 1000 lb drs wks.lb.	.14	.15	.15 .14
.16	.25	.25	.25	Nutgalls Aleppy, bags.....lb.	.25	Nom.	Nom. .25
.15	.17	.17	.17	Chinese, bags.....lb	.17	.18	.18 .17
.....	.22	.22	.22	Powdered, bags.....lb	.22	.24	.24 .22
.08	.03½	.03½	.03½	Oak, tanks, wks.....lb	....	.03½	.03½ .03½
.08	.04	.04	.04	23-25% liq., 600 lb bbl wk .lb.	.04	.04½	.04½ .04
.....	45.00	45.00	45.00	Oak Bark, ground.....ton	45.00	50.00	50.00 45.00
.....	20.00	20.00	20.00	Whole.....ton	20.00	23.00	23.00 20.00
				Orange-Mineral, 1100 lb casks			
.07½	.14½	.13	.13⅜	NY.....lb.	.11½	12½	.13½ .13
.....	2.20	2.20	2.20	Orthoaminophenol, 50 lb kgs..lb.	2.20	2.25	2.25 2.20
.....	2.50	2.35	2.36½	Orthoanisidine, 100 lb drs....lb.	2.35	2.50	2.50 2.35
.....	.50	.50	.50	Orthochlorophenol, drums....lb.	.50	.65	.65 .50
.....	.18	.18	.18	Orthocresol, drums.....lb.	.18	.28	.28 .18
				Orthodichlorobenzene, 1000 lb			
1918	.06	.06	.06	drums.....lb	.06	.07	.07 .06
				Orthonitrochlorobenzene, 1200			
1918	.32	.32	.32	lb drs wks.....lb.	.32	.35	.35 .32
				Orthonitrotoluene, 1000 lb drs			
1918	.13	.13	.13	wks.....lb.	.17	.18	.18 .17
1918	.85	.85	.85	Orthonitrophenol, 350 lb dr...lb.	.85	.90	.90 .85
1918	.29	.25	.28	Orthotoluidine, 350 lb bbl 1c-1.lb.	.29	.31	.31 .29
				Orthonitroparachlorphenol, tins			
1918	.70	.70	.70	.....lb.	.70	.75	.75 .70
.....	.16	.16	.16	Osage Orange, crystals.....lb.	.16	.17	.17 .16
1918	.07	.07	.07	51 deg. liquid.....lb.	.07	.07½	.07 .07
.....	.14½	.14½	.14½	Powdered, 100 lb bags.....lb.	.14½	.15	.15 .14½
				Paraffin, refd, 200 lb cs slabs			
.04¾	.06½	.06½	.06½	123-127 deg. M. P.....lb.	.06½	.06¾	.06¾ .06½
.05¼	.07½	.07½	.07½	128-132 deg. M.P.....lb.	.07½	.07¾	.07¾ .07½
.06¼	.08	.08	.08	133-137 deg. M.P.....lb.	.08	.08½	.08½ .08
1918	.08¾	.08¾	.08¾	138-140 deg. M.P.....lb.	.08¾	.10	.10 .08¾
.....	.29	.26	.26½	Para Aldehyde, 110-55 gal drs.lb.	.20½	.23	.28 .20½
1918	1.00	1.00	1.00	Aminoacetanilid, 100 lb bg.lb.	1.00	1.05	1.05 1.00
				Aminohydrochloride, 100 lb kegs			
.....	1.25	1.25	1.25	.....lb.	1.25	1.30	1.30 1.25
.....	.15	.15	.15	Aminophenol, 100 lb kegs...lb.	.....	1.15	1.15 1.15
.....	.50	.50	.50	Chlorophenol, drums.....lb.	.50	.65	.65 .50
.....	.12	.12	.12	Coumarone, 330 lb drums..lb.	.....	.....	....
.....	2.25	2.25	2.25	Cymene, refd, 110 gal dr...gal.	2.25	2.50	2.50 2.25
				Dichlorobenzene, 150 lb bbls			
1918	.17	.17	.17	wks.....lb.	.17	.20	.20 .17
1918	.53	.50	.50½	Nitroacetanilid, 300 lb bbls.lb.	.50	.55	.55 .50
				Nitroaniline, 300 lb bbls wks			
1917	.52	.52	.52	.....lb.	.48	.49	.49 .48
				Nitrochlorobenzene, 1200 lb drs			
.....	.32	.32	.32	wks.....lb.	.....	.32	.32 .32
				Nitro-orthotoluidine, 300 lb			
1918	2.75	2.75	2.75	bbls.....lb.	2.75	2.85	2.85 2.75
1918	.50	.50	.50	Nitrophenol, 185 lb bbls....lb.	.50	.55	.55 .50
				Nitrosodimethylaniline, 120 lb			
.....	.92	.92	.92	bbls.....lb.	.92	.94	.94 .92
1918	.30	.25	.26	Nitrotoluene, 350 lb bbls...lb.	.....	.30	.30 .30
				Phenylenediamine, 350 lb bbls			
1918	1.20	1.15	1.18	.....lb.	1.15	1.20	1.20 1.15
				Toluenesulfonamide, 175 lb			
.....	.40	.40	.40	bbls.....lb.	.40	.41	.41 .40
				Toluenesulfonchloride, 410 lb			
.....	.20	.18	.19	bbls wks.....lb.	.20	.22	.22 .20
1918	.45	.38	.41	Toluidine, 350 lb bbls wk...lb.	.40	.42	.42 .40
				Paris Green, Arsenic Basis			
.11	.21	.21	.21	100 lb kegs.....lb.	.....	.25	.25 .20
.....	.19	.19	.19	250 lb kegs.....lb.	.....	.23	.23 .17
.12	.25	.25	.25	Persian Berry Ext., bbls.....lb.	.....	.....	....
.....	.02¼	.02¼	.02¼	Petrolatum, Green, 300 lb bbl.lb.	.02¼	.03	.03 .02¼
1918	.18	.16	.17	Phenol, 250-100 lb drums.....lb.	.13	.20	.13 .20
				Phenyl - Alpha - Naphthylamine,			
1918	1.35	1.28	1.35	100 lb kegs.....lb.	.....	1.35	1.35 1.35
45.00	9.00	8.50	8.75	Phosphate Acid, 16% blk wks.ton	.....	9.00	9.00 9.00
				Phosphate Rock, f.o.b. mines	.....	.....	....
3.00	3.00	3.00	3.00	Florida Pebble, 68% basis..ton	3.00	3.15	3.15 3.00
2.00	3.50	3.50	3.50	70% basis.....ton	3.50	3.65	3.65 3.50
.....	4.00	3.85	3.96	72% basis.....ton	4.00	4.15	4.15 4.00
4.00	5.35	5.00	5.09	75-74% basis.....ton	.....	5.00	5.00 5.00
4.00	5.75	5.60	5.71¼	75% basis.....ton	.....	5.75	5.75 5.75
5.75	6.25	6.00	6.19	77-76% basis.....ton	.....	6.25	6.25 6.25
4.50	5.50	5.00	5.12½	Tennessee, 72% basis.....ton	.....	5.00	5.00 5.00
				Phosphorous Oxychloride 175 lb			
.....	.35	.35	.35	cyl.....lb.	.35	.40	.40 .35
.45	.65	.60	.62	Red, 110 lb cases.....lb.	.60	.65	.65 .60
35	.32	.32	.32	Yellow, 110 lb cases wks.lb.	.....	.32	.32 .32
..	.46	.46	.46	Sesquisulfide, 100 lb cs.....lb.	.....	.46	.46 .46
....	.35	.35	.35	Trichloride, cylinders.....lb.	.....	.....	....
				Phthalic Anhydride, 100 lb bbls			
.....	.18	.18	.18	wks.....lb.	.18	.20	.20 18

ALCOHOL THROUGH THE AGES NUMBER XXIV



AMBASSADORS OF UNDERSTANDING

A quarter century has seen barriers of distance broken down, sectional misunderstandings eliminated, the vision of a people broadened, and civilization advanced beyond all former conceptions. The motor car, monarch of the miles, untiring steed of the modern day, has worked wonders in unifying the thoughts and actions of the world.

Twenty-two million automobiles in use in the United States puts our nation on wheels; a production of four million cars a year places the automotive industry in the forefront—and Industrial Alcohol helps to keep it there.

The brilliant, lustrous lacquers, paints and varnishes, which combine beauty and durable protection, are largely dependent upon Alcohol as a solvent, while the use of the motor car in cold climates has been extended to year around operation because Alcohol is universally used as an anti-freeze.

* * * *

Millions of gallons of Solox Denatured Alcohol—"Anty Freez"—are sold by the Kentucky Alcohol Corporation every year to protect the radiators of the nation, while other enormous quantities find their way from our distilleries to shellac, lacquer, and varnish manufacturing plants.

KENTUCKY ALCOHOL CORPORATION

30 BROAD STREET * * * NEW YORK CITY

Address Sales Representatives, Listed in Our Former Advertisements, and Those Which Follow, for Your Industrial Alcohol Needs.

NOTE: **This is number TWENTY-FOUR of a series of advertisements which will appear in this and other trade publications. We have had so many comments and requests for copies of these advertisements that we have decided to issue the entire series in booklet form, after they have appeared in the publications.**

As the edition will be limited to the number of requests on hand at the time of publication, we invite you to write for your copy now—it will be sent FREE when the booklet is completed. Address the Kentucky Alcohol Corporation direct, or any one of our sales representatives, whose names appear regularly in this space.

Prices Current and Comment

Standard Purchasing Power of the Dollar: July 1914 $1.00 - Jan. 1927 68.7c - July 1927 71.7c - April 1928 67.8c

than the smaller quantity exported in May, 1927. Exports of turpentine amounted to 914,077 gallons last May, as compared with exports of 1,383,126 gallons in May, 1927. Exports of wood turpentine continued heavier than in 1927, totaling 83,792 gallons in May, 1928, as compared with exports of 58,254 gallons in May, 1927.

Below are shown exports of naval stores, gums and resins during the five-month period ended May 31, 1928 and 1927:

	1927	*1928*
Total naval stores, gums and resins	$11,849,631	$8,508,575
Rosin—		
*Gum rosin, bbls	379,804	342,545
Value	$7,608,162	$5,213,001
*Wood rosin, bbls	48,772	48,891
Value	$815,479	$643,568
Gum spirits turpentine, gals	3,704,930	2,851,856
Value	$2,700,490	$1,620,357
Wood turpentine, gals	274,483	416,356
Value	$182,175	$212,183
*Tar and pitch, wood, bbls	16,587	8,603
Value	$137,303	$91,248
Other gums and resins, lbs	1,286,939	2,310,946
Value	$406,022	$728,218

*Of 500 pounds.

Shellac — After some decline in prices soon after last reported, the market recovered and during the past two weeks has been firm. Consequently the only price change over the period of the month has been a 2c lb. decline in superfine, to 48c @ 49c lb.

Soda Ash — Following the general trend of the market during the late days of June, there was a falling off in spot business and spot withdrawals. This is normal for the season and a resumption of good business is looked for when the Summer months have been spanned. Otherwise the market is unchanged.

Sodium Chlorate — Has been rather quiet for the past month. Sales have kept up to the expected movement for the month, but the imported competition which was in evidence during the Spring has died out. Sellers have made no revision in their openly quoted price which they lowered to kill off the competition on the Atlantic seaboard. Sales are reported in this territory at 5¾c lb. delivered.

Sodium Nitrate — Of chief interest during the month has been the announcement of the Chilean Government that it would subsidize producers against any reductions in synthetic nitrogen products prices by German producers. There has been but little activity and the market is lower at $2.17½ per 100 lbs.

Starch — Continues strong and with the last advance in the price of grain moved into a new high for the year. Powdered is now at $4.22 @ $4.42 per 100 lbs. and pearl at $4.12 @ $4.32 per 100 lbs.

1914 July	1927 High	1927 Low	1927 Aver.		Current Market	1928 High	1928 Low
.....	40.00	37.00	38 50	Pigments Metallic, Red or Brown bags, bbls, Pa. wks....ton	37.00	45.00	45.00	37.00
				Pine Oil, 55 gal drums or bbls				
1918	.63	.63	.63	Destructive dist....lb.	.63	.64	.64	.63
.....	8.00	8.00	8.00	Prime bbls....bbl.	8.00	10.60	10.60	8.00
.34	.70	.66	.69	Steam dist. bbls....gal.	.....	.70	.70	.70
				Pitch Hardwood, ...				
37.50	40.00	40.00	40.00	wks....ton	40.00	45.00	45.00	40.00
				Plaster Paris, tech, 250 lb bbls				
1.50	3.30	3.30	3.30	....bbl.	.....	3.30	3.30	3.30
				Potas				
.04½	.07½	.07½	.07½	Potash, Caustic, wks....lb.	.....	.07½	.07½	.07½
.....	.07½	.07½	.07½	Imported casks c-l....lb.	.....	.07½	.07½	.07½
				Potash Salts, Rough Kainit				
8.36	9.00	9.00	9.00	12.4% basis bulk....ton	.....	9.00	9.00	9.00
.....	9.50	9.50	9.50	14% basis....ton	.....	9.50	9.50	9.50
				Manure Salts....				
13.58	12.40	12.40	12.40	20% basis bulk....ton	.....	12.40	12.40	12.40
.....	18.75	18.75	18.75	30% basis bulk ....ton	.....	18.75	18.75	18.75
				Potassium Muriate, 80% basis				
39.07	36.40	36.40	36.40	bags....ton	.....	36.40	36.40	36.40
				Pot. & Mag. Sulfate, 40% basis				
25.04	27.00	27.00	27.00	bags....ton	.....	27.00	27.00	27.00
				Potassium Sulfate, 90% basis				
47.57	47 30	47.30	47.30	bags....ton	.....	47.30	47.30	47.30
				Potassium Bicarbonate, USP, 320				
.08	.09	.09	.09	lb bbls....lb.	.09	.09½	.09½	.09
				Bichromate Crystals, 725 lb				
.06½	.08½	.08	.08½	casks....lb.	.09	.09½	.09½	.08½
.....	.12	.11	.11	Powd., 725 lb cks wks....lb.	.12½	.13	.12½	.12
.....	.16	.16	.16	Binoxiate, 300 lb bbls....lb..	.16	.17	.17	.16
.....	.30	.30	.30	Bisulfate, 100 lb kegs....lb.	.....	.30	.30	.30
				Carbonate, 80-85% calc. 800				
.03½	.05½	.05½	.05½	lb casks....lb.	.05½	.05½	.05½	.05½
				Chlorate crystals, powder 112				
.07½	.08½	.08½	.08½	lb keg wks....lb.	.08½	.09	.09	.08½
				Potassium Chlorate, Imp 112 lb				
.....	.08½	.08½	.08½	kegs NY....lb.	.07½	.08½	.08½	.07½
	.05½	.05½	.05½	Chloride, crys bbls....lb.	.05½	.05½	.05½	.05½
.....	.27	.27	.27	Chromate, kegs....lb.	.27	.28	.28	.27
.20	.55	.55	.55	Cyanide, 110 lb. cases....lb.	.55	.57½	.57½	.55
.13	.11½	.11½	.11½	Metabisulfite, 300 lb. bbl..lb.	.11½	.12	.12	.11½
.14	.16	.16	.16	Oxalate. Neut. 225 lb. bbls.lb.	.16	.17	.17	.16
.....	.11	.11	.11	Perchlorate, casks wks....lb.	.11	.12	.12	.11
				Permanganate, USP, crys 500				
.09½	.15½	.14½	.14½	& 100 lb drs wks....lb.	.15	.15½	.15½	.15
.21	.39	.37½	.38	Prussiate, red, 112 lb keg...lb.	.37	.38	.38	.37
.12½	.18	.18	.18	Yellow, 500 lb casks....lb.	.18	.18½	.18½	.18
.....	.51	.51	.51	Tartrate Neut, 100 lb keg...lb.	.....	.51	.51	.51
				Titanium Oxalate, 200 lb bbls				
.....	.25	.25	.25	....lb.	.....	.25	.25	25
.....	.04	.04	.04	Pumice Stone, lump bags....lb.	.04	.05	.05	.04
.04½	.04½	.04½	.04½	250 lb bbls....lb.	.04½	.06	.06	.04½
.01½	.02½	.02½	.02½	Powdered, 350 lb bags....lb.	.02½	.03	.03	.02½
2.65	3.75	3.75	3.75	Putty, commercial, tubs..100 lb.	.....	.03½	.03½	.03½
4.25	5.50	5.50	5.50	Linseed Oil, kegs....100 lb.	.....	.05½	.05½	.05½
.....	3.00	1.50	.94	Pyridine, 50 gal drums....gal.	.....	1.50	1.50	1.50
				Pyrites, Spanish cif Atlantic				
.10½	.13	.12	.12½	ports bulk....unit	.13	.13½	.13½	.13
.02½	.03	.03	.03	Quebracho, 35% liquid tks....lb.	.03	.03½	.03½	.03
.....	.03½	.03½	.03½	450 lb bbls c-l....lb.	.03½	.04	.04	.03½
.....	.04	.04	.04	35% Bleaching, 450 lb bbl..lb.	.04	.05	.05	.04
.04½	.05	.04½	.04½	Solid, 63%, 100 lb bales cif.lb.	.05½	.05½	.05½	.05
.....	.05	.05	.05	Clarified, 64%, bales....lb.	.....	.05½	.05½	.05
				Quercitron, 51 deg liquid 450 lb				
.01½	.06½	.06½	.06½	bbls....lb.	.05½	.06	.06	.05½
.02½	.10	.10	.10	Solid, 100 lb boxes....lb.	.10	.13	.13	.10
22.00	14.00	14.00	14.00	Bark, Rough....ton	.....	14.00	14.00	14.00
.....	34.00	34.00	34.00	Ground....ton	34.00	35.00	35.00	34.00
1918	.45	.45	.45	R Salt, 250 lb bbls wks....lb.	.45	.46	.46	.45
.03	.18	.18	.18	Red Sanders Wood, grd bbls..lb.	.....	.....	.....	.....
1918	1.25	1.25	1.25	Resorcinol Tech, cans....lb.	1.25	1.35	1.35	1.25
				Rosin Oil, 50 gal bbls, first run				
.27	.67	.57	.59	....gal.	.....	.57	.57	.57
.38	.72	.62	.64	Second run....gal.	.....	.62	.62	.62
				Rosins, 600 lb bbls 280 lb...unit				
4.37½	13.00	8.50	10.08½	B....	.....	9.75	9.75	8.20
4.42½	13.00	8.50	10.17	D....	.....	9.80	9.80	8.25
4.42½	13.15	8.50	10.23	E....	.....	9.95	9.95	8.60
4.47½	13.20	8.50	10.49	F....	.....	10.10	10.10	8.65
4.47½	13.25	8.50	10.58½	G....	.....	10.10	10.10	8.75
4.47½	13.30	8.50	10.65	H....	.....	10.10	10.10	8.75
4.55	13.35	8.55	10.79½	I....	.....	10.15	10.15	8.80
4.49½	14.80	8.65	11.05	K....	.....	10.15	10.15	8.85
5.47½	15.00	8.80	11.15½	M....	.....	10.20	10.30	8.85
6.12½	15.85	9.15	11.62	N....	.....	10.30	11.00	9.60
6.67½	16.60	10.50	12.58	WG....	.....	11.15	11.65	10.25
6.92½	18.55	12 00	14.34	WW....	.....	11.85	12.65	10.70
.....	24.00	24.00	24.00	Rotten Stone, bags mines....ton	24.00	30.00	30.00	24.00
.....	.07	.07	.07	Lump, imported, bbls. ....lb.	.07	.08	.08	.07
.05½	.09	.09	.09	Selected bbls....lb.	.09	.12	.12	.09
.02½	.02	.02	.02	Powdered, bbls....lb.	.02	.05	.05	.02
.02½	.04½	.04½	.04½	Sago Flour, 150 lb bags....lb.	.04½	.05	.05	.04½
.60	.90	.90	.90	Sal Soda, bbls wks....100 lb.	.....	.....	.....	.....
11.00	19.00	19.00	19.00	Salt Cake, 94-96% c-l wks...ton	19.00	20.00	20.00	19.00
8.00	15.00	15.00	15.00	White, 87% wks....ton	15.00	17.00	17.00	15.00
				Saltpetre, double refd granular				
.04½	.06½	.06½	.06½	450-500 lb bbls....lb.	.06½	.06½	.06½	.06½
.....	.01½	.01½	.01½	Satin, White, 500 lb bbls....lb.	.....	.01½	.01½	.01½
.18½	.66	.47	.57	Shellac Bone dry bbls....lb.	.57½	.58	.61	.49
.15	.57	.41	.48	Garnet, bags....lb.	.46	.47	.55	.46
.14½	.65	.40	.52½	Superfine, bags....lb.	.48	.49	.58	47
.15½	.37	.57	.49	T. N. bags....lb.	.46	.47	.55	.42
1918	.50	.50	.5C	Schaeffer's Salt, kegs....lb.	.53	.57	.57	.53

DU PONT

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E. I. du Pont de Nemours & Company

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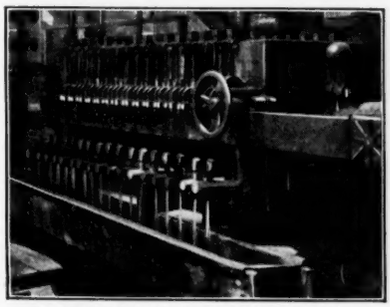
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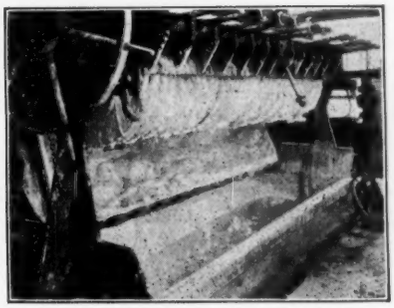
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Non-Clogging: Wool or camel's hair cloths, which Resisto-Filters replace, have a tendency to felt and fill up with solids. The press cake clings to their hairy surfaces, making removal difficult. Even after many filtrations, a Du Pont Resisto-Filter will not clog and a uniform rate of filtration is maintained.

Resistance to Corrosion: In their resistance to the corrosive action of sulfuric, nitric and hydrochloric acids or mixtures of those acids, Du Pont Resisto-Filters are far superior to any textile material. Du Pont Resisto-Filters have a life at least twelve times as long as good grade woolen filter cloth and over six times that of camel's hair or the most expensive of the woolen cloths.



165 Filtrations obtained with Resisto-Filters on the above press filtering 20% boiling sulfuric acid.



250 Filtrations obtained with Resisto-Filters on the above lead-lined press filtering 35% sulfuric acid at 35° C.

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.....

Prices Current and Comment

Standard Purchasing Power of the Dollar: July 1914 $1.00 - Jan. 1927 68.7c - July 1917 71.7c - April 1928 67.8c

Tankage — South American is higher at $5.00 & 10 per unit.

Turpentine — In common with the rosin market, activity here has been very satisfactory, the market firm and prices higher than those last reported. Export statistics are contained above in the report on rosin.

Wattle Bark — Arrivals in large volume have lead to price reductions during the past month. Now quoted at $55.00 per ton. The Department of Commerce announces that, according to data collected at the last biennial canvass of tanneries, the consumption of tanning materials and extracts during 1927 by 362 active tanneries was as follows: Bark, wood, and other crude vegetable tanning materials, approximately 393,000 tons, costing $6,765,956; vegetable tanning extracts, 415,106,872 pounds, costing $14,020,170.

The corresponding figures for 1925, compiled from reports made by 347 active tanneries are: Crude vegetable materials, approximately 400,000 tons, costing $7,221,896; vegetable tanning extracts, 415,557,587 pounds, costing $12,918,635. The extract consumed in 1927 comprised 319,161,232 pounds of liquids costing $8,777,804, and 95,945,550 pounds of solids, costing $5,242,366.

OILS AND FATS

Chinawood Oil — The price tendency has been steadily upwards during the past month and at present the market is firm. Barrels are quoted at 15c @ 15¼c lb. in New York, an increase in price of ½c @ ¾c lb. since last quoted. Tanks at the Coast are at the same level as last month, 12¾c lb.

Coconut Oil — All grades have steadily declined in price since last quoted. Hand-to-mouth buying in small lots has been the rule during the past month. Ceylone is at 9¼c @ 9⅜c lb. in barrels, and 8½c in tanks, New York, Cochin is at 10c @ 10¼c lb. in barrels and 9¼c lb. in tanks. Manial is at 9⅛c @ 9¼c lb. in barrels and 8⅜c @ 8½c lb. in tanks, New York, and 8c @ 8⅛c in tanks at the Coast.

Corn Oil — Crude oil at the mills went as high as 9¼c lb. soon after last reported but by the middle of the month was down as low as 8¾c lb. Of late, the market, following the lead of cottonseed, has gone higher again, so that crude oil in tanks at the mills is now at 9c @ 9⅛c lb.

Cottonseed Oil — Very strong with prices on PSY, both spot and futures,

1914 July	1927 High	1927 Low	1927 Aver.		Current Market		1928 High	1928 Low
.....	6.00	6.00	6.00	Silica, Crude, bulk mines....ton	8.00	11.00	11.00	8.00
.....	15.00	15.00	15.00	Refined, floated bags.....ton	22.00	30.00	30.00	22.00
.....	32.00	32.00	32.00	Air floated bags.....ton	.....	.....	.....	.....
.....	55.00	55.00	55.00	Extra floated bags.....ton	32.00	40.00	40.00	32.00
10.00	15.00	15.00	15.00	Soapstone, Powdered, bags f.o.b. mines.....ton	15.00	22.00	22.00	15.00
				Soda				
.67½	1.32½	1.32½	1.32½	Soda Ash, 58% dense, bags c-1 wks.....100 lb.	.....	1.40	1.40	1.40
.57½	2.14	2.04	2.12	58% light, bags del NY.100 lb.	2.04	2.29	2.29	2.04
.....	1.32½	1.32½	1.32½	Contract, bags c-1 wks.100 lb.	.....	1.32½	1.32½	1.32½
2.50	4.16	4.06	4.14½	Soda Caustic, 76% grnd & flake drums del NY.....100 lb.	4.16	4.21	4.21	4.16
.....	3.76	3.66	3.74¼	76% solid drs del NY...100 lb.	3.76	3.91	3.91	3.76
.....	3.00	3.00	3.00	Contract, c-1 wks.....100 lb.	.....	3.00	3.00	3.00
.03¾	.04½	.04½	.04½	Sodium Acetate, crystals, 450 lb bbls wks.....lb.	.04½	.05	.05	.04½
.....	.19	.18	.18½	Arsenate, drums.. .....lb.	.....	.....	.....	.....
.....	1.00	1.00	1.00	Arsenite, drums.....gal.	.....	.....	.....	.....
1.00	2.41	2.41	2.41	Bicarb., 400 lb bbl NY..100 lb.	.....	2.41	2.41	2.41
.04¾	.06½	.06½	.06½	Bichromate, 500 lb cks wks.lb.	.07	.07½	.07	.06½
.02¾	.08½	.08½	.08½	Bisulfite, 500 lb bbl wks....lb.	.....	.04	.04	.04
.60	1.30	1.30	1.30	Carb. 350 lb bbls NY...100 lb.	1.30	1.35	1.35	1.30
.07½	.06½	.06½	.06½	Chlorate, 112 lb kegs wks...lb	.05¾	06½	.06¾	.05¾
.....	12.00	12.00	12.00	Chloride, technica!.....ton	12.00	13.00	13.00	12.00
.22	.20	.20	.20	Cyanide, 96-98%, 100 & 250 lb drums wks.....lb.	.....	.20	.20	.20
1918	.08¾	.08¾	.08¾	Fluoride, 300 lb bbls wks...lb.	.08¾	.09	.09	.08¾
.....	.22	.22	.22	Hydrosulfite, 200 lb bbls f.o.b. wks.....lb.	.22	.24	.24	.22
.....	.05	.05	.05	Hypochloride solution, 100 lb cbys.....lb.	.....	.05	.05	.05
1.40	2.65	2.65	2.65	Hyposulfite, tech, pea crys 375 lb bbls wks....100 lb.	2.65	3.05	3.05	2.65
1.30	2.40	2.40	2.40	Technical, regular crystals 375 lb bbls wks... 100 lb.	2.40	2.65	2.65	2.40
.....	.70	.45	.62	Metanilate, 150 lb bbls.....lb.	.....	.45	.45	.45
.....	.02½	.02½	.02½	Monohydrate, bbls.....lb.	.....	.....	.....	.....
1918	.55	.55	.55	Naphthionate, 300 lb bbl...lb.	.55	.57	.57	.55
2.12½	2.67	2.25	2.52½	Nitrate, 92%, crude, 200 lb bags c-1 NY.....100 lb.	.....	2.17½	2.45	2.17½
.05¾	.08¾	.08	.08	Nitrite, 500 lb bbls spot ...lb.	.07½	.08	.08¼	.07½
.....	.25	.25	.25	Orthochlorotoluene, sulfonate, 175 lb bbls wks.....lb	.25	.27	.27	.25
.....	.20	.20	.20	Oxalate Neut, 100 lb kegs..lb.	.20	.23	.23	.20
.....	3.90	3.90	3.90	Paratoluene, tri-sodium, tech. 100 lb bbls c-1....100 lb.	.....	3.90	3.90	3.90
.....	.08	.08	.08	Sulfonate, 175 lb bbls....lb.	.08	.09	.09	.08
.19	.21	.21	.21	Perborate, 275 lb bbls.....lb.	.21	.22	.22	.21
2.12½	3.25	3.25	3.25	Phosphate, di-sodium, tech. 550 lb bbls.....100 lb.	3.25	3.55	3.55	3.25
.....	.69	.69	.69	Picramate, 100 lb kegs.....lb.	.69	.72	.72	.69
.08¾	.12	.11	.12	Prussiate, Yellow, 350 lb bbl wks.....lb.	.12	.12½	.12½	.12
.....	.13½	.13½	.13½	Pyrophosphate, 100 lb keg..lb.	.13½	.14	.14	.13½
.02	1.20	1.20	1.20	Silicate, 40 deg clear 55 gal drs wks.....100 lb.	1.20	1.45	1.45	1.20
.02	.85	.85	.85	40 deg turbid 55 gal drs wks.....100 lb.	.85	1.10	1.10	.85
.....	.04½	.04½	.04½	Silicofluoride, 450 lb bbls NY .....lb.	.04½	.05	.05	.04½
.....	.48½	.48½	.48½	Stannate, 100 lb drums.....lb.	.48½	.49	.49	.48½
.....	.20	.20	.20	Stearate, bbls.....lb.	.18	.22	.29	.18
.....	.16	.16	.16	Sulfanilate, 400 lb bbls.....lb.	.16	.18	.18	.16
.....	.02½	.02½	.02½	Sulfate Anhyd., 550 lb bbls c-1 wks.....lb.	.02½	.02½	.02½	.02½
.01½	.02½	.02½	.02½	Sulfide, 30% crystals, 440 lb bbls wks.....lb.	.02½	.02½	.02½	.02½
.....	.03½	.03½	.03½	62% solid, 650 lb drums 1c-1 wks.....lb.	.03½	.04	.04	.03½
.02½	.03½	.03½	.03½	Sulfite, crystals, 400 lb bbls wks.....lb.	.03½	.03½	.03½	.03½
.....	.40	.40	.40	Sulfocyanide, bbls.....lb.	.40	.50	.50	.40
.....	.85	.80	.82½	Tungstate, tech, crystals, kegs .....lb.	.80	.85	.85	.80
1917	.40	.35	.37	Solvent Naphtha, 110 gal drs wks.....gal.	.35	.40	.40	.35
1918	.01½	.01½	.01½	Spruce, 25% liquid, bbls.....lb.	.....	.01½	.01½	.01½
1918	.01	.01	.01	25% liquid, tanks wks.....lb.	.....	.01	.01	.01
.....	.02	.02	.02	50% powd., 100 lb bag wks.lb.	.02	.02½	.02½	.02
.....	3.22	3.07	3.14½	Starch, powd., 140 lb bags .....100 lb.	4.22	4.42	4.42	3.07
1.99	3.12	2.97	3.03	Pearl, 140 lb bags.....100 lb.	4.12	4.32	4.32	2.97
.05½	.06	.04½	.05½	Potato, 200 lb bags .....lb	.05½	.06½	.06½	.05½
.05½	.06½	.06½	.06½	Imported bags.....lb	.05½	.06½	.06½	.05½
.05½	.08	.06	.07	Soluble.....lb.	.08	.08½	.08½	.08
.07	.09½	.09	.09½	Rice, 200 lb bbls.....lb.	.09½	.10	.10	.09½
.04½	.06½	.06½	.06½	Wheat, thick bags.....lb.	.06½	.07	.07	.06½
.04½	.09½	.09½	.09½	Thin bags.....lb.	.09½	.10	.10	.09½
1918	.07½	.07½	.07½	Strontium carbonate, 600 lb bbls wks.....lb	.07½	.07½	.07½	.07½
.07½	.08¾	.08	.08	Nitrate, 600 lb bbls NY....lb.	.08¾	.09	.09	.08¾
				Sulfur				
1.85	2.05	.205	2.05	Sulfur Brimstone, broken rock, 250 lb bag c-1.....100 lb.	.....	2.05	2.05	2.05
.....	18.00	18.00	18.00	Crude, f.o.b. mines.... ton	18.00	19.00	19.00	18.00
....	2.40	2.40	2.40	Flour for dusting 99½%, 100 lb bags c-1 NY.....100 lb.	.....	2.40	2.40	2.40
2.00	2.50	2.50	2.50	Heavy bags c-1.....100 lb.	.....	2.50	2.50	2.50
2.20	3.45	3.45	3.45	Flowers, 100%, 155 lb bbls c-1 NY.....100 lb.	.....	3.45	3.45	3.45
1.85	2.65	2.65	2.65	Roll, bbls 1c-1 NY.....100 lb.	2.65	2.85	2.85	2.65

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Prices Current and Comment

Standard Purchasing Power of the Dollar: July 1914 $1.00 - Jan. 1927 68.7c - July 1927 71.7c - April 1928 67.8c

much higher than when last quoted. Spot has advanced ¼c lb. since last reported, while futures average about ½c lb. higher. Crude oil has been nominal for some time. A total of 1,451,805,930 pounds of crude oil produced from cottonseed was manufactured in the United States from August 1, to May 31, during the season, 1927-28, according to the preliminary report of the Bureau of the Census, Department of Commerce, just made public. There were also produced during the same period 1,262,325,535 pounds of refined oil, including that held by refiners. On hand at the mills May 31, were 47,409,005 pounds of crude oil. Exports of crude oil for nine months ended April 30, 1928, were 46,595,291 pounds, exports of refined oil for the same period were 7,937,064 pounds. During May, exports of crude oil totaled 901,402 pounds compared with 6,844,933 pounds in May 1927; while exports of refined oil were 941,378 pounds as against 1,441,269 in May of last year.

Grease — Yellow has advanced ⅛c lb. and is now quoted at 7¾c lb. while other grades remain unchanged.

Lard Oil — Extra has been weak during the past month and is ¼c lower in price, now being quoted at 12½c lb.

Linseed Oil — Declined 2c lb. soon after last reported but since then has been steady at 9.4c lb. in tanks, 10.2c lb. in barrels, and 10.4c lb. in five barrel lots. Practically all of the resale material has disappeared and the market is firm with no price shading.

Neatsfoot Oil — Cold-test has declined ¼c lb. during the month and is now at 18½c lb. Pure has also declined and is now ½c lb. lower at 15¼c lb. Extra has remained unchanged.

Oleo Oil — All grades have declined ¾c @ 1½c lb. during the past month. No. 1 has declined from 14¾c lb. to 14c lb.; No. 2 from 13½c lb. to 12c lb.; and No. 3 from 12¾c lb. to 11¾c lb.

Olive Oil — Denatured has declined during the past month as increasing supplies have become available in the primary market. Now quoted at $1.18 @ $1.25 gal. Edible is also lower at $1.75 @ $2.00 gal., depending upon quality. Foots has declined ¼c lb. and is now at 9⅝c @ 9¾c lb.

Palm Kernel Oil — Is ½c lb. lower than when last quoted due chiefly to lack of buying interest and considerable stocks. Now quoted at 8¾c @ 9c lb.

Palm Oil — Lagos has declined in price to 7⅞c @ 8c lb., ⅛c lb. lower than when last quoted. After a similar decline early in the month, Niger has returned to the same level at which it was last quoted, 7⅜c @ 7½c lb.

1914 July	1927 High	1927 Low	1927 Aver.		Current Market	1928 High	1928 Low
				Sulfur Chloride, red, 700 lb drs wks. . . . . lb.	.05	.05½	.05½	.05
.....	.05	.05	.05	Yellow, 700 lb drs wks. . . . . lb.	.03½	.04½	.04½	.03½
.....	.03½	.03½	.03½	Sulfur Dioxide, 150 lb cyl. . . . lb.	.08	.08½	.08½	.08
.....	.08	.08	.08	Extra, dry, 100 lb cyl. . . . . lb.	.17	.19	.19	.17
.....	.17	.17	.17	Sulfuryl Chloride, 600 lb dr. . . lb	.10	.65	.65	.10
.....	.65	.65	.65	Stainless, 600 lb bbls. . . . . lb.	.11	.11½	.11½	.11
.....	.11	.11	.11	Extract, 450 lb bbls. . . . . lb.	.05½	.06	.06	.05½
.....	.05	.05	.05	Sicily Leaves, 100 lb bg. . . ton	.....	130.00	130.00	130.00
.....	130.00	130.00	130.00	Ground shipment. . . . . ton	.....	72.00	72.00	72.00
62.00	80.00	72.00	73.75	Virginia, 150 lb bags. . . . . ton	55.00	60.00	60.00	55.00
40.00	55.00	55.00	55.00	Talc, Crude, 100 lb bgs NY. . ton	12.00	15.00	15.00	12.00
.....	12.00	12.00	12.00	Refined, 100 lb bgs NY. . ton	16.00	18.00	18.00	16.00
15.00	16.00	16.00	16.00	French, 220 lb bags NY. . . ton	30.00	35.00	35.00	30.00
15.00	30.00	30.00	30.00	Refined, white, bags. . . . ton	38.00	45.00	45.00	38.00
.....	38.00	38.00	38.00	Italian, 220 lb bags NY. . . ton	40.00	50.00	50.00	40.00
35.00	40.00	40.00	40.00	Refined, white, bags. . . . ton	50.00	55.00	55.00	50.00
.....	50.00	50.00	50.00	Tankage Ground NY. . . . . unit	.....	4.75&10	5.10&10	4.65&10
3.50	4.85	4.00	4.41	High grade f.o.b. Chicago. unit	.....	4.25&10	4.25&10	3.90&10
3.10	5.25	3.75	4.29	South American cif. . . . . unit	.. ..	5.00&10	5.00&10	4.60&10
.....	5.25	4.00	4.38½	Tapioca Flour, high grade bgs. lb.	.04½	.05	.05	.04½
.02	.04½	.04½	.04½	Medium grade, bags. . . . . lb.	.03½	.04	.04	.03½
.01½	.03½	.03½	.03½	Tar Acid Oil, 15%, drums. . . gal.	.26	.27	.27	.26
.....	.26	.26	.26	25% drums. . . . . gal.	.29	.30	.30	.29
.....	.29	.29	.29	Coke Oven, tanks wks. . . . . lb	.07	.08	.08	.07
.....	.07	.07	.07	Kiln Burnt, bbl. . . . . bbl.	.....	13.50	13.50	13.50
6.50	16.00	13.50	14.87½	Retort, bbls. . . . . bbl.	13.50	15.00	15.00	13.50
6.76	18.50	13.50	15.38½	Terra Alba Amer. No. 1, bags or bbls mills. . . . . 100 lb.	1.15	1.75	1.75	1.15
.75	1.15	1.15	1.15	No. 2 bags or bbls. . . 100 lb.	1.50	2.00	2.00	1.50
.60	1.50	1.50	1.50	Imported bags. . . . . 100 lb.	.02	.02½	.02½	.02
.80	2.00	2.00	2.00	Tetralene, 50 gal drs wks. . . . . lb.	.....	.20	.20	.20
.....	.20	.20	.20	Thiocarbanilid, 170 lb bbl. . . . . lb.	.22	.24	.24	.22
.....	.22	.22	.22	Tin Bichloride, 50% soln, 100 lb bbls wks. . . . . lb.	.....	.15½	.17½	.15½
.11½	.20½	.17½	.19	Crystals, 500 lb bbls wks. . . lb.	.....	.39½	.41½	39
.23	.48	.41½	.45	Metal Straits NY. . . . . lb.	.....	.51½	.58	.51½
.....	.71½	.58	.65	Oxide, 300 lb bbls wks. . . . . lb.	.....	.56	.75	57
.36	.75	.70	.71	Tetrachloride, 100 lb drs wks . . . . . lb.	.....	.33	.35½	.33
.....	.48	.35½	.39	Titanium Oxide, 200 lb bbl. . . lb.	.....	.40	.40	.40
.....	.40	.40	.40	Pigment, bbls wks. . . . . lb.	.13½	.14	.14	.13½
.....	.13½	.13½	.13½	Toluene, 110 gal drs wks. . . . . lb.	.....	.40	.40	.40
1918	.40	.40	.40	8000 gal tank cars wks. . . . . lb.	.....	.35	.35	.35
.....	.35	.35	.35	Toluidine, 350 lb bbls. . . . . lb.	.90	.94	.94	.90
1918	.90	.90	.90	Mixed, 900 lb drs wks. . . . . lb.	.31	.32	.32	.31
1918	.31	.31	.31	Toner Lithol, red, bbls. . . . . lb.	.85	.90	.90	.85
.....	.85	.85	.85	Para, red, bbls. . . . . lb.	.70	.75	.80	.70
.....	.75	.75	.75	Toluidine. . . . . lb.	1.70	1.75	1.80	1.70
1918	1.75	1.75	1.75	Triacetin, 50 gal drs wks. . . . . lb.	3.60	3.90	3.90	3.60
.....	3.60	3.60	3.60	Tricresyl Phosphate, drs. . . . . lb.	.36	.50	.50	.36
.....	.36	.36	.36	Triphenylguanidine. . . . . lb.	.69	.73	.73	.69
.....	.70	.69	.69	Phosphate, drums. . . . . lb.	.70	.75	.75	.70
.....	.70	.70	.70	Tripoli, 500 lb bbls. . . . . 100 lb.	2.50	3.00	3.00	2.50
.....	2.50	2.50	2.50	Turpentine Spirits, bbls. . . . . gal.	.56½	.62	.64½	.52½
.49	.86	.53½	.65	Wood Steam dist. bbls. . . . gal.	.....	.53	.59	.46
.34	.76	.46	.55	Urea, pure, 112 lb cases. . . . . lb.	.18	.20	.20	.18
.....	.18	.18	.18	Valonia Beard, 42%, tannin bags. . . . . ton	.....	Nom.	76.00	74.00
.....	70.00	66.00	61.52	Cups, 30-31% tannin. . . . . ton	.....	Nom.	55.00	55.00
.....	49.50	39.00	43.96	Mixture, bark, bags. . . . . ton	.....	Nom.	64.00	63.00
.....	68.00	43.00	48.52	Vermilion, English, kegs. . . . . lb.	1.85	1.90	1.95	1.75
.55	1.95	1.55	1.94½	Wattle Bark, bags. . . . . ton	.....	55.00	76.00	55.00
.....	59.00	49.50	53.71	Extract 55%, double bags ex-dock. . . . . lb.	.....	.06½	.06½	.05½
.....	.05½	.05½	.05½	Whiting, 200 lb bags, c-1 wks . . . . . 100 lb.	.....	1.25	1.25	1.25
.45	1.25	1.25	1.25	Alba, bags c-1 NY. . . . . ton	.....	13.00	13.00	13.00
.....	13.00	13.00	13.00	Gilders, bags c-1 NY. . . 100 lb.	.....	1.35	1.35	1.35
.55	1.35	1.35	1.35	Zinc Ammonium Chloride powd., 400 lb bbls. . . . . lb.	5.25	5.75	.05½	5.85
.....	.06½	.06½	06½	Carbonate Tech, bbls NY. . lb.	.09½	.10	.10	.09½
.08½	.09½	.09½	.09½	Chloride Fused, 600 lb drs. wks. . . . . lb.	.....	.06	.06	.06
.04½	.06	.06	.06	Gran., 500 lb bbls wks. . . . . lb.	.06½	.06½	.06½	.06½
.04½	.06½	.06½	.06½	Soln 50%, tanks wks. . . 100 lb.	.....	3.00	3.00	3.00
.....	3.00	3.00	3.00	Cyanide, 100 lb drums. . . . . lb.	.40	.41	.41	.40
.....	.40	.40	.40	Dust, 500 lb bbls c-1 wks. . . lb.	.....	.09	.09	.09
.05½	.09	.09	.09	Metal, high grade slabs c-1 NY. . . . . 100 lb.	.....	6.45	6.40	6.07½
.....	7.35	6.40	6.66	Oxide, American bags wks. . lb.	.07½	.07½	.07½	.07½
.05½	.07½	07½	.07½	French, 300 lb bbls wks. . lb.	.10½	.12½	.12½	.10½
.06½	.10½	.10½	.10½	Sulfate, 400 bbl wks. . . . . lb.	.03½	.03½	.03½	.03½
.02½	.03½	03	.03½	Sulfide, 500 lb bbls. . . . . lb.	.30	.32	.32	.30
.....	.30	.30	.30	Sulfocarbolate, 100 lb keg. . lb.	.29	.30	.30	.29
.....	.29	.29	.29	Xylene, 10 deg tanks wks. . . . lb.	.....	.32	.32	.32
.....	.38	32	.37	Commercial, tanks wks. . . . lb.	.30	.32	.32	.30
.....	.36	.30	.35	Xylidine, crude. . . . . lb.	.....	.38	.38	.38
1918	.35	.35	.35	Zirconium Oxide, Nat. kegs. . lb.	.02½	.03	.03	.02½
.....	.02½	.02½	.02½	Pure kegs. . . . . lb.	.45	.50	.50	.45
.....	.45	.45	.45	Semi-refined kegs. . . . . lb.	.08	.10	.10	.08
.....	.08½	.08	.08					

Oils and Fats

.08	.14	.13	.13	Castor, No. 1, 400 lb bbls. . . . lb.	.14	.14½	.14½	.14
.08	.14	.12½	.13½	No. 3, 400 lb bbls. . . . . lb.	.13½	.14	.14	.13½
.....	.18	.17	.18	Blown, 400 lb bbls. . . . . lb.	.15½	.16	.17	.15½
.06½	.31	.13½	.19	China Wood, bbls spot NY. . . lb.	.15	15½	.17	.14½
.05½	.18	.12½	.16½	Tanks, spot NY. . . . . lb.	.....	Nom.	Nom.	Nom.
				Coast tanks, July . . . . . lb.	.....	.12½	.14½	.12½
1918	.12	.12	.12	Cocoanut, edible, bbls NY. . . . lb.	.....	.10½	.11½	10½
.09½	.09½	.09	.09	Ceylon, 375 lb bbls NY. . . . lb.	.9½	.9½	.10	9½
.08½	.08½	.08	.08½	8000 gal tanks NY. . . . . lb.	.....	.8½	.09	.8½
.10½	.10½	.09½	.10	Cochin, 375 lb bbls NY. . . . lb.	.10	.10½	.10½	.10

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CLEVELAND, OHIO.

Prices Current and Comment

Standard Purchasing Power of the Dollar: July 1914 $1.00 - Jan. 1927 68.7c - July 1927 71.7c - April 1928 67.8c

Rapeseed Oil — Both blown and English are 2c gal. lower than when last reported here. The former is now being quoted at $1.04 gal. and the latter at 88c @ 90c gal. Japanese is still nominal.

Sesame Oil — Has become exceedingly scarce and prices have advanced accordingly. Edible yellow is now ¾c lb. higher than when last reported, being at 12¾c @ 13¼c lb. White is now quoted at 13c @ 13½c lb.

Soy Bean Oil — There are at present no stocks at the Coast so that quotations there are nominal. The market in New York, as might be expected, is very strong. Crude is quoted at 12½c lb. in barrels and 10½c lb. in tanks. Refined is at 13¾c lb. in barrels, an advance of ¼c lb. since last reported.

Stearine Oleo — Prices have been steadily falling off in this market from the unusually high range which has been maintained during the last few months. Now quoted at 9½c @ 9¾c lb. which marks a decline of ¾c lb. since last reported.

Tallow — The downward trend in prices which has been evident throughout the animal group during the past month is also true of extra tallow. It is now quoted at 8¼c lb. a decline of ¼c lb. since last reported.

Tallow Oil — Is ⅛c lb. lower, both in barrels and in tanks. The former is quoted at 11½c lb. and the latter at 10½c lb.

Whale Oil — A record in the history of Norwegian whaling has been made in the 1927-28 season just closed in Norway, according to the Department of Commerce. With but one exception, all fields exceeded all expectations, the total yield amounting to about 745,000 barrels. Value of the year's catch is estimated at between 60 and 62,000,000 kroner. It is possible that the latter figure will be reached, inasmuch as the quality of the oil has been reported greatly improved this year, said to be due to the fact that it is produced immediately after the whales are caught. An international whale oil pool recently formed in Norway is said to have sought three-fourths of the world's output for next year. The pool is said to consist of the Norwegian Company De-No-Fa, Oslo, Norway, Lever Brothers, London, International Margarine Union, Rotterdam and Oslo and the Calve Co. Delft, Netherlands. The amount of whale oil of the 1928-29 yield contracted by the pool is placed at 80,000 to 100,000 tons or 400,000 to 600,000 barrels. The oil is for delivery April to August of next year. Contracts for all purchases will reach between 2,000,000 and 3,000,000 pounds sterling.

1914 July	1927 High	1927 Low	1927 Aver.		Current Market	1928 High	1928 Low
.05½	.10	.08½	.09½	Tanks NY.....lb.	.....	.09½	.09½	.09½
.....	.09½	.08½	.09½	Manila, bbls NY.....lb.	.08½	.09½	.10	.09½
.....	.08½	.08½	.08⅝	Tanks NY.....lb.	.08½	.08½	.08½	.08½
.....	.08½	.08	.08½	Tanks, Pacific Coast.....lb.	.08	.08½	.08½	.08
				Cod, Newfoundland, 50 gal bbls				
.36½	.66	.63	.64½	.....gal.	.68	.69	.69	.63
.36½	.59	.59	.59	Tanks NY.....lb	.62	.63	.63	.62
				Cod Liver see Chemicals.....				
1918	.06	.06	.06	Copra, bags.....lb.	.....	.05½	.06½	.05½
.06½	.11	.07	.10	Corn, crude, bbls NY.....lb.	.....	.11	.11	.10½
.06½	.09½	.07	.08½	Tanks, mills.....lb.	.09	.09½	.10	.08½
1916	.14	.10½	.12	Refined, 375 lb bbls NY....lb.	.....	.12½	.12½	.12½
1916	.12	.11	.11	Tanks.....lb.	.....	.11½	.11½	.11½
.06	.09½	.06½	.08	Cottonseed, crude, mill.....lb.	.....	Nom.	.09½	.07½
.07½	.11½	.08 1/5	.10	PSY, 100 lb bbls spot.....lb.	.....	10 45	10.65	.09½
				June—Au5.....lb.	.....	10.75	10.75	.09½
				Degras, American, 50 gal bbls				
.02½	.04½	.04½	.04½	NY.....lb.	.04½	.05	.05	.04½
.03½	.04½	do	do	English, brown, bbls NY...lb.	.....	.05½	.05½	.04½
.03½	.05½	.05½	.05½	Light, bbls NY.....lb.	.....	.05½	.05½	.05½
.04½	.07½	.06	.06⅜	Greases, Brown.....lb.	.07½	.07½	.07½	.07
.05½	.08	.06½	.07½	Yellow.....lb.	.....	.07½	.08	07
.06½	.10½	.08½	.09⅜	White, choice bbls NY,....lb.	.....	.09½	.10½	.09½
.....	.....	.....	.....	Herring, Coast, Tanks.....gal.	.....	42½	.42½	.40
.009	.09½	.09	.09⅛	Horse, bbls.....lb.	.09½	Nom.	Nom.	.09½
.13	.16½	.14½	.15½	Lard Oil, edible, prime.....lb.	.....	.16½	.16½	.15½
.....	.13½	.10½	.12	Extra, bbls.....lb.	.....	.12½	.13	.12½
.09	.12½	.10⅛	.11½	Extra No. 1, bbls.....lb.	.....	.12½	.12½	.11½
.078	.11 4/5	.10 2/5	.11	Linseed, Raw, five bbl lots....lb.	.....	10.6	10.8	10.0
.077	.11 9-10	.09 6-10	.10⅛	Bbls c-l spot.....lb.	.. ..	10.4	10.4	9.6
.076	.10½	.09	.09 7-12	Tanks.....lb.	.....	9.4	9.6	8.8
.....	.09½	.09½	.09½	Lumbang, Coast.....lb.	.....	.09½	.09½	.09½
.33½	.47½	.44	.46⅝	Menhaden Tanks, Baltimore.gal.	.....	Nom.	.46	.46
.....	.90	.10	.36⅝	Blown, bbls NY.....lb.	.....	.09	.09	.09
.43	.70	.67	.68½	Extra, bleached, bbls NY. gal.	.....	.70	.70	.67
.39	.66	.63	.62	Light, pressed, bbls NY....gal.	.63	.64	.64	.63
.37	.66	.69	.67½	Yellow, pressed, bbls NY gal.	.66	.67	.67	.66
				Mineral Oil, white, 50 gal bbls				
				.....gal.	.40	.60	.60	.40
				Russian, gal.....gal.	.95	1.00	1.00	.95
.14	.18½	.14½	.17½	Neatsfoot, CT, 20° bbls NY..lb.	.....	.18½	.18½	.18½
.....	.13½	.10½	.12	Extra, bbls NY.....lb.	.....	.12½	.12½	.12
.....	.16½	.12½	.14½	Pure, bbls NY.....lb.	.....	.15½	.16½	.15½
.08	.18½	.10	.13½	Oleo, No. 1, bbls NY .....lb.	.....	.14	.17½	.14
.07½	.17	.08½	.12	No. 2, bbls NY.....lb.	.....	.12	.15½	.12
.07½	.14	.08½	.10½	No. 3, bbls NY.....lb.	.....	.11½	.14	.11½
.83	1.75	1.40	1.48½	Olive, denatured, bbls NY...gal.	1.18	1.25	1.30	1.18
1918	2.00	2.45	2.15	Edible, bbls NY.....gal.	1.75	2.00	2.00	1.75
.07½	.10½	.08½	.09⅛	Foots, bbls NY.....lb.	.09½	.09½	.10½	.09½
.08½	.09½	.09	.09½	Palm, Kernel, Casks.....lb.	.08½	.09	.09½	.08½
.07	.08½	.07½	.08	Lagos, 1500 lb casks.....lb.	.07½	.08	.08½	.07½
.....	.08½	.07½	.07½	Niger, Casks.....lb.	.07½	.07½	.07½	.07
.....	.14½	.12	.12	Peanut, crude, bbls NY.....lb.	.12	.12½	.12½	.12
.....	.15½	.14½	.15	Refined, bbls NY.....lb.	.14½	.15	.15	.14½
.....	.16½	.12½	.14	Perilla, bbls NY.....lb.	.13½	.13½	.13½	.13
.....	.14½	.10	.12	Tanks, Coast.....lb.	.....	.12	.12	.10½
.....	1.70	1.70	1.70	Poppyseed, bbls NY.....gal.	1.70	1.75	1.75	1.70
.63	1.05	1.00	1.01	Rapeseed, blown, bbls NY...gal.	.....	1.04	1.06	1.01
.....	.90	.82	.87	English, bbls NY.....gal.	.88	.90	.92	.87
.....	.85	.76	.80⅝	Japanese, bbls NY.....gal.	.....	Nom.	.88	.82
.06½	.10	.09	.09	Red, Distilled, bbls.....lb.	.09½	.10½	.10½	.09½
.....	.09½	.08½	.08⅝	Tanks.....lb.	.....	.09	.09½	.08½
.....	.50	.50	.50	Salmon, Coast, 8000 gal tks..gal.	.50	Nom.	Nom.	.50
.....	.47	.43	.45	Sardine, Pacific Coast tks....gal.	.....	Nom.	.45	.45
.08½	.13	.11½	.12½	Sesame, edible, yellow, bbls...lb.	.12½	.13½	.13½	.12
.....	.14	.14	.14	White, bbls.....lb.	.13	.13½	.15	.13
.34	.40	.40	.40	Sod, bbls NY.....gal.	.....	.40	.40	.40½
.....	.09½	.09½	.09½	Soy Bean, crude.....				
.06½	.....	.....	.....	Pacific Coast, tanks.....lb.	.....	Nom.	.09½	.09
.....	.12½	.10½	.12	Soy Bean, crude, bbls NY....lb.	.....	.12½	.12½	.12
.....	.11	.10½	.10½	Tanks NY.....lb.	.....	10½	.10½	.10½
.....	.13	.12	.13	Refined, bbls NY.....lb.	.....	.13½	.13½	.13½
				Sperm, 38° CT, bleached, bbls				
.70	.85	.84	.84½	NY.....gal.	.84	.85	.85	.84
.68	.82	.79	.80½	45° CT, bleached, bbls NY.gal.	.79	.80	.80	.79
				Stearic Acid, double pressed dist				
1916	.13½	.11½	.12	bags.....lb.	.11½	.11½	.12	.11
				Double pressed saponified bags				
1916	.14	.11½	.12	.....lb.	.11½	.12½	.12½	.11½
1916	.15½	.13½	.14	Triple, pressed dist bags...lb.	.13½	.14½	.14½	.13½
.07½	.13	.08½	.11	Stearine, Oleo, bbls.....lb.	.09½	.09½	.11½	.09½
.06	.09	.07½	.08	Tallow, City, extra loose.....lb.	.....	.08½	.09½	.08½
.07	.11	.08½	.10	Edible, tierces .....lb.	.09½	.10	.10½	.09½
.09	.10½	.08½	.10	Tallow Oil, Bbls, c-1 NY...lb.	.....	.11½	.11½	.11½
.09½	.12½	.10	.11	Acidless, tanks NY.....lb.	.....	.10½	.10½	.10½
.....	.08½	.07½	.07½	Vegetable, Coast mats.....lb.	.08	Nom.	Nom.	.08
.04½	.11	.11	.11	Turkey Red, single bbls.....lb.	.11	.12	.1	.1
.05½	.14	.14	.14	Double, bbls.....lb.	.14	.16	.16	.14
				Whale, bleached winter, bbls				
.50	.78	.78	.78	NY.....gal.	.78	.80	.80	.78
.52	.80	.80	.80	Extra, bleached, bbls NY..gal.	.80	.82	.82	.80
.48	.76	.76	.76	Nat, winter, bbls NY.....gal	.76	.78	.78	.76



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BOSTON

There is very little change in market conditions. Business in New England is generally quiet; collections are fair. The most active products seem to be solvents, particularly denatured alcohol, as so many of our buyers take in their alcohol in June to avail themselves of the low market price for the year.

KANSAS CITY

Conditions in general in the Kansas City territory are better at this time of year than at the same time in 1927. Bankers and others say that it is exceeding their expectations. However, orders still continue on a hand-to-mouth basis and are small but numerous. Credit conditions are fair but slow.

There is no particular excitement on any item. The markets are being well sustained and prices firmly held on blue vitriol, alcohol and glycerine. The territory is receiving too much rain and if it continues it is going to do a great deal of damage which will materially effect business in the latter half of the year There is increasing competition in all lines and the margin of profits are gradually being whittled down.

ST. LOUIS

Business during the early part of June was very good and continued so until about the middle of the month, when an appreciable decline became apparent. This falling off in business apparently is not confined to anyone industry, but seems to be pretty general. There seems to be a general apathy existing throughout the St. Louis business territory, part of which may be attributed to vacations. This business slow up seems to be about two weeks early this year. By far the most important price change during the past month has been a one and one-quarter cent drop in the price of Borax. This comes as the result of a war between the two leading producers and not because of a smaller demand. Reflecting the tin situation, the price of tin oxide declined another one cent per pound to a 55c basis. The continued heavy rains throughout the Mississippi valley has brought about a demand for water treating chemicals which is larger than usual at this time of the year Collections leave much to be desired and many of the accounts which formerly discounted promptly are now taking from 30 to 60 days.

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NEWARK

Referring to business conditions during the month of June we find in the leather field that there is an improvement of from ten to fifteen per cent. in volume over the corresponding period of last year, and the volume for June 1928 is about the same as May 1928. There seems to be a larger volume of orders, principally in numbers rather than in quantity but the entire industry can be best described as fairly quiet, although employees are retained and something found for them to do. The situation in dry colors and chemicals is generally satisfactory. June volume does not seem to be quite up to the immediate preceeding months; in fact about 5% less in June than in May, has not caused any disturbance as it is anticipated that the semi-annual inventory is accountable for some of this shrinkage. Collections are somewhat improved and the volume of business in June 1928 is about 20% over June 1927. It is anticipated that July business will be better than that of June. The entire trade can be classified as fair to good. Textiles do not show very much improvement. The situation is very quiet and larger producers are disinclined to predict the immediate future. This is one of the least satisfactory of our industries. General business is considerably better this year than last and the immediate future seems to hold out rather bright prospects.

PHILADELPHIA

The market for the past few days seems to have slowed up and business is assuming the holiday attitude and there is no real snap to the market. Orders are being placed on a small routine basis, however, such items as copper sulfate, which is scarce, is very active and prices are high, in fact, you can get most any price to-day for spot goods. Naphthalene remains active and contracts are being filled with regularity. Yellow prussinate of potash also has advanced, and there is slight inquiry for it. Calcium chloride also remains active, but out side of these few items the regular market report and conditions prevail on most other items. Business up to this point has been satisfactory, and while we expect a slowing up of the next two months on a whole it will be fair. Money still remains tight and collections are only fair.

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Telephones vs. Salesmen

(*Continued from page 34*)

probability that even these may be eliminated with the future development of the telephone.

A few facts of general nature may be of interest in pointing out the present possibilities of the use of the telephone. Three trans-continental lines now directly link together every important center of chemical production and distribution in the United States so that manufacturer at the Atlantic seaboard can talk directly to his distributor on the Western Coast at a toll rate of nine dollars. About 60 per cent. or 18,500,000 of the world's telephones are concentrated in the United States. Through the development of the transatlantic service, any one of these 'phones may be linked to any other of nearly 25,000,000 out of the estimated 31,000,000 instruments in the world, or more than 80 per cent. of the total. These developments have been made in answer to the demands of American business and indicate the tremendous scope of the telephone in transacting that business, of which the chemical industry is so great a part.

Production of aluminum salts in the United States in 1927 was 378,770 short tons, valued at $14,288,430, an increase of $1,086 420 or 8 per cent. in value and 5,075 tons or 1 per cent. in quantity, as compared with 1926, according to a statement prepared by J. M. Hill, United States Bureau of Mines, Department of Commerce.

Makers of aluminum salts consumed 79,130 long tons of domestic bauxite and 58,740 tons of imported bauxite, a total of 137,870 tons, valued at $1,857,590 at consuming works. There were also consumed 720 tons of alumina and 2,780 tons of aluminum hydrate in the manufacture of the salts.

Exports of aluminum sulfate from the United States in 1927 were 21,129 short tons, valued at $491,968.

Production of aluminum salts in the United States in 1927 was as follows:

Salt	Number of producers reporting	1927 Short tons	1927 Value Total	1927 Value Average
Alum:				
Ammonia	5	5,200	$319,820	$61.50
Soda	3	14,230	928,870	65.28
Aluminum chloride:				
Liquid	4	2,760	139,830	50.66
Crystal	3	270	36,130	133.81
Anhydrous	3	14,100	3,878,120	275.04
Aluminum sulfate:				
Commercial:				
General	14	309,400	7,708,450	24.91
Municipal	5	6,810	149,540	21.96
Iron-free	8	20,210	706,910	34.98
Other aluminum salts*	6	5,790	420,760	72.67
		378,770	14,288,430	

*Two producers each of potash alum, alumina, and sodium aluminate.

Imports of chemicals and chemical fertilizers into the East Coast of Sumatra during 1927, which showed general increases, amounted to 32,184 metric tons valued at approximately $3,000,000, reports Consul Walter A. Foote, Medan. Imports of chemical fertilizers rose from 17,853 metric tons in 1925 to 22,846 metric tons in 1927. During the same period imports of formic acid rose from 96 metric tons to 376 metric tons. Principal chemical imports direct from the United States through the port of Belawan-Deli in 1927 were 198 metric tons of lead arsenate, and 1,470 tons of ammonium sulphate. The United States supplied approximately one-quarter of the total imports of lead arsenate and about one-third of the ammonium sulphate.

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Sulphuryl Chloride

Thyonyl Chloride

Exporting American Capital

(*Continued from page 37*)

From the standpoint of the nation as a whole the advantages and disadvantages are very conjectural. When we make investments in foreign securities, we do so in the first instance by giving a foreign enterprise or government command over funds in the United States. These funds may be spent by the foreign borrower within his own country, within the United States or in other countries. It makes no important difference in which of these ways the funds are used so far as concerns the ultimate affect of such loans on the balance of international payments of the United States. For the loan creates dollar exchange which is used either in paying for additional exports of merchandise (or gold) from the United States or by reducing the imports that would otherwise have been bought. Needless to say the dollar exchange created might affect the invisible items on the balance of international payments as well as the visible ones.

We have also shown that as interest payments are made on our foreign investments, the effect on the balance of payments is the opposite to that just outlined. Now since the interest rate is higher than would have been received at home upon the invested capital, the return is greater than the loss of national income sustained when we invested abroad instead of at home.

A further advantage from our foreign investment policy arises from our important position as an export country. To the extent that our loans are used productively abroad, they increase the efficiency of foreign industries and enhance the purchasing power of foreign consumers. In this way we may benefit through the extension of the demand for American products. It is likewise true on the contrary that we may stimulate and strengthen foreign industries which are in active competition with our own. However, our national policy has been to encourage legitimate competition in the broad field of industry and it would not be consistent to adopt a different attitude in the international field.

By an order entered in Investigation and Suspension Docket No. 3114, the Interstate Commerce Commission suspended from June 1, 1928, until January 1, 1929, the operation of certain schedules as published in Supplements Nos. 20 and 21 to Canadian National Railways Tariff I. C. C. No. E. 263, and certain concurrences of various carriers.

The suspended schedules propose to increase the rates on cyanamid and crude cyanide, carloads, from Niagara Falls, Ont., to destinations in Eastern Trunk Line, New England, and C. F. A. points, and Virginia cities.

The British Treasury has issued an order, under Section 10 (5) of the Finance Act, 1926, which provides for temporary exemption from Key Industry Duty for the period April 13 to December 31, 1928, of the following chemicals; Lactic acid, which satisfies the requirements of the British Pharmacopoeia, metaldehyde, methyl chloride, and synthalin, reports Trade Commissioner H. S. Fox, London.

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OMAHA -- ST. LOUIS
NEW ORLEANS

One Chemical Chamber of Commerce

(*Continued from page 20*)

J. T. Skelly, vice president, Hercules Powder Co.: To correlate the various existing chemical organizations and put forward a more unified front for the chemical industry.

W. R. Austin, Chemical Control, Tenn., Chemical Co.: I consider the title "A United Front" conveys sufficient reasons, in itself. The advantages of systematic co-operation for any industry or closely allied ones is undeniable.

Guy S. Gardner, Guy S. Gardner & Co.: Co-operation and organized effort can accomplish more than several small unites even though the latter are working toward the same end.

W. W. Morrill, President, Industrial Chemical Co.: It's the only way for the right hand to know what the left hand is doing; Economy; Power and influence.

J. Ehrlich, Verona Chemical Co.: A Chemical Chamber of Commerce should be of service in (a) preventing over-expansion of certain ndustrial unites and increasing others ie: regulating production. (b) preventing duplication of effort, (c) gathering cost data, etc.

M. E Squire, Chemist & Mamager, Allwood Lime Co.: That we are suffering now from competition from abroad, when during the war, the product we manufactured for our country, at a great expense being a "War Necessity," was withheld from export by the German producers. We made the same price during the War that we sold at before the declaration of war and took no advantage of our country's necessity. We were the sole source of supply of Vienna Lime for the finishing of steel balls for ball bearings from 1915 to 1919, in England, Canada and the United States.

Arthur Orr, Commercial Solvents Corp.: Yes, with reservations; against a permanent organ'zation to become beaurocratic, inefficient.

Willis R. Dresser, Big "D" Fertilizer Co.: I think the industry should get as close together as possible for mutual protection.

Chas. W. Stone, Dyestuffs & Chemicals: I think such an organization should promote stability and a better understanding in the industry.

Ottmar M. Krembs, Krembs & Co.: Small American manufacturers of chemicals should have proper representation on tariff rates, etc.

C. R. Johnson, Godfrey L. Cabot: Not to replace specialized associations, but to handle problems common to chemical industry. One body cannot serve diversified products in all details.

C. L. Gabriel, Commercial Solvents Corp.: Mass action so the burden is equally distributed over the entire industry rather than in a few individual concerns. Exchange of data, especially credit and knowledge of foreign activities.

Thomas F. Brown, Kentucky Alcohol Corp.: United organization to help the chemical industry. In time of war, a properly organized industry of great importance to our country in time of stress, will be properly functioning to carry on its mission.

G. S. Robins, G. S. Robins & Co.: Ramifications of the chemical industry have prevented concerted action on matters of general interest. A Chamber of Commerce would provide such a medium.

C. R. De Long, Federal Phosphorus Co. Yes, if present associations will be merged into it. I have felt for a number of years that the interests of the chemical industry could better be served by one organization. My several years experience in government work and its contact with various trade associations has resulted in this conclusion.

H. D. Ruhn, Vice-president, Ruhm Phosphate Chemical Co.: United we might stand—divided we have done considerable falling for many years. The whole industry needs greater co-operation in all its lines.

Some Negative Opinions

E. C. Holton, Sherwin-Williams Co.: For general safeguarding of the industry.

Clarence M. Schultz, Murian Agric. Chemical Co.: Insufficient similarity of interest.

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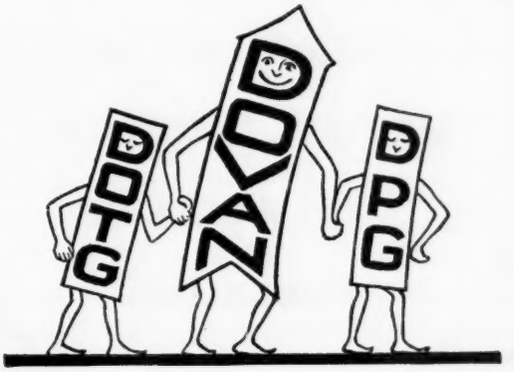
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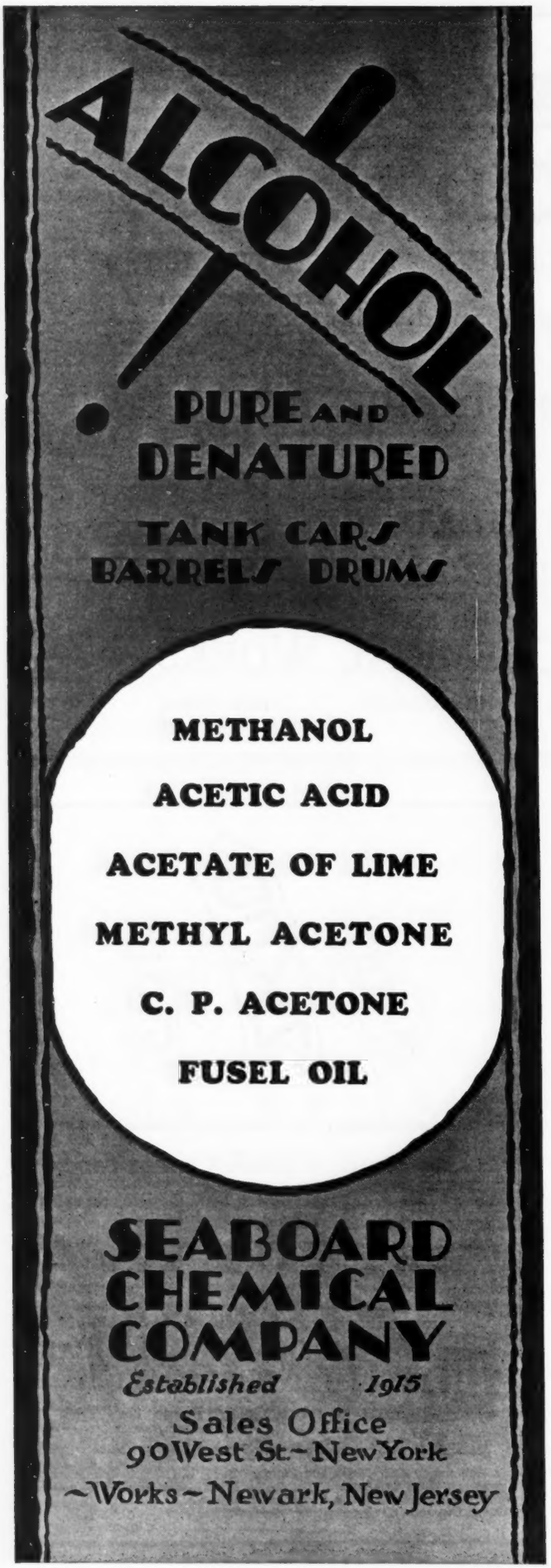
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Leon Cooper, Cooper & Cooper, Inc.: Your own editorial objecting to the maintenance of separate trade organizations. Why not work under one of the organizations already functioning ?

C. I. Thompson, Thompson Hayward Chemical Co.: Negative in character. Too much governmental interference in all business to-day.

A. C. Goodman, Vice-president, Standard Silica Co.: Too many chambers already. Make use of some already incorporated, such as National Chamber

Robert E. Winkler, The Isaac Winkler & Bro. Co.: Fail to see what service such an institution could render, and believe such an organization would tend to deliver into another lobby.

Frank S. Havens, President, Atlantic Products Corp.: The field is covered as well as possible by exsiting organizations.

J A McNulty, Joseiph A. McNulty: Believe we have too many trade organizations now.

A. P. Bryant, Clinton Corn Syrup Refining Co : Each industry has its own peculiar problems, requiring its own association and as Chamber of Commerce would be just one more, added to what we have.

J. E Totman, Summers Fert. Co.: The fertilizer industry is just beginning to recuperate from a seven years plague of internal differences. A permanent cure requires a close knit organization that will bring the individuals and their problems frequently together, thus re-establishing lost confidence. This being accomplished, I would then favor a broader organization.

While the recent international zinc conference at Brussels did not result in an actual organization of a world or even European zinc cartel, it has gone a long way toward bringing about a co-operation of European interests and is making serious effects to attract American interests to a world combination, according to the Department of Commerce.

One definite result of the conference is the resolution to organize a statistical bureau to record everything pertaining to zinc production, consumption, and markets. Measures have also been adopted to limit the world output of zinc, though such action is reserved for a time when conditions demand it.

The principal producers of Belgium, France, Poland, Germany, Spain, Italy, and the Netherlands signed the tentative agreement prepared at the Brussels conference. Perhaps it was felt that the absence of American interests at the conference made all plans for control of production and prices premature, since the United States accounts for 40 per cent. of the world production of zinc. However, Americans were unofficially present.

Bureau of Customs makes following announcements: assessment of duty on ammonium sulfocyanide at 25 per cent. ad valorem under paragraph 25, Tariff Act of 1922, will be continued in order that a test case on classification of this substance may be made up; crushed gypsum has been taken off the free list as of July 13, and thereafter will be assessed at the rate of $1.40 ton as is now the case with material classified as ground gypsum; Argentine tankage which shows ammonia content not in excess of 9.50 per cent. is admitted to free list as a fertilizer material.

Rayon production in Italy during 1927 is estimated at 22,800,000 kilos compared with 17,000,000 in 1926 and 14,650,000 in 1925, Assistant Trade Commissioner E. Humes, Rome, says in a report to the Department of Commerce.

There are at present in Italy 24 factories manufacturing rayon, of which nine are controlled by the Snia Viscosa, four by the Societa Generale della Viscosa, and three by the Chatillon. Snia Viscosa controls between 60 and 75 per cent. of the total production and Chatillon 22 per cent.

Adgate, Matthew, vice-pres., genl. mgr., Naugatuck Chemical Co. Born, Keeseville, N. Y., 15 Mar. 1871; mar., Elise F. Pond, Bridgeport, Conn., 15 Nov. 1900; (died 12 Mar. 1912) mar. 2nd, Mabel E. Follett, White Plains, N. Y., 22 July 1915; educat., Univ. Vermont, B.S. in Chem., 1893. Fairfield Chemical Works, chem. and asst. supt., 1893-99; General Chemical Co., asst. supt., Fairfield works, 1899-1900; supt. Syracuse works, 1900-04; Naugatuck Chemical Co., supt., 1905-16, genl. mgr., 1917 to date; dir. Bridgeport Patent Leather Co., Risdon Mfg. Co., Naugatuck Chemical Co. Memb., Am. Chem. Soc., Soc. Chem. Ind., Am. Inst. Chem. Engrs., Alpha Tau Omega, Naugatuck Chamb. Commerce. Clubs: Chemists' (N. Y.). Address, Naugatuck Chemical Co., Naugatuck, Conn.

Alexander, Jerome, consult. chem. and chem. engr., New York. Born, New York, 21 Dec. 1876; mar., Gertrude Hammerslough, New York, 9 Apr. 1903; educat., B. S. 1896, M. Sc., 1899. Natl. Gum & Mica Co., treas., 1896-1921; chmn., Colloid Com., Div. Chemistry & Chem. Tech. Natl. Research Council. Author, "Colloid Chemistry," "Glue and Gelatin" (A. C. S. Monograph II); translator, Zsigmondy's "Colloids and the Ultramicroscope." Memb., Am. Chem. Soc., Am. Inst. Chem. Engrs., Am. Inst. Mining & Metal. Engrs., Soc. Chem. Ind. (Chmn., Am. Sect., 1917-19), Soc. de Chimie Industrielle, Kolloid Gesellschaft, Fellow, Am. Assn. Advance. Sc. Clubs: Chemists' (N. Y.), Author's (London). Address, 51 E. 42nd St., New York.

Chipman, Ralph Nelson, pres., Chipman Chemical Engineering Co. Born, Beverly, N. J., 14 Feb. 1886; mar., Irene Harris, Chicago, 28 Apr. 1916; educat., Wm. Penn Charter School, Phila. Atlas Preservative Co. of Am., mgr. until 1917; pres. Chipman Chemical Eng. Co. 1917 to date. Memb., Insect. & Disinfect. Assn., Agric. Insect. & Fungicide Mfrs. Assn. Clubs: Larchmont Yacht, Bankers', Transportation, Port Washington Yacht, Chemists' (N. Y.). Originator chemical weed extermination on railroad right of way; inventor railroad sprinkling apparatus. Hobby: yachting. Address, 136 Liberty St., New York.

Concannon, Charles Cuthbert, chief, Chem. Div., Dept. of Commerce, Washington, D. C. Born, Boston, Mass., 13 Mar. 1889; unmarried; educat., Harvard, A.B., 1911. Brewer & Co., Worcester, Mass., salesman; Takamine Lab., dir., mgr. Clubs: Harvard (Boston), Harvard, Chemists' (N. Y.), University, Rock Creek Hunt (Washington). Hobby: horses. Address, Dept. of Commerce, Washington, D. C.

Dicks, Frederick A., pres., Finley, Dicks & Co. Born, Natchez, Miss., 16 Oct. 1853; mar., Lee J. Gince, 30 Dec. 1875; educat. grammar school. Started work in retail drug store at 14 years of age; established firm of F. A. Dicks, Natchez, 1875; consolidated with G. R. Finley, 1895, formed Finley, Dicks & Co., Inc. Memb., Am. Phar. Assn., N. W. D. A., La. Pharmaceutical Assn., Miss. Phar. Assn. (charter memb.). Clubs: Chess & Checkers, Round Table, Southern Drug. Was the first to suggest the restriction of sales of cocaine and morphine in the South; prevented a bloody conflict between mobs in 1875 in Mississippi by having small bottles of bromine thrown into a negro mob, this being the first instance of a gas bomb being used in America. Hobby: books. Address, 600 Magazine St., New Orleans, La.

Dorland, Ralph Erskine, mgr., N. Y. branch Dow Chemical Co. Born, Elyria, O., 22 Aug. 1879; dir. descd. of Gerretse von Dorlandt, who settled on Staten Isl., N .Y., 1658; mar., Edith E. Green, Lafayette, Ind., 17 June 1902; educat., Purdue Univ., Ph.G., 1901. Engaged in ret. drug bus., 1902-14; Green School Pharmacy, Indianapolis, prof. chem. and phar., 1914-18; Dow Chem. Co., mgr., phar. chem. sales, 1918; N. Y. branch, mgr., 1920 to date. Memb., Ill. Phar. Assn. (pres. 1913-14), Salesmen's Assn. (pres. 1924), Mason (Chapter, Comndry, Shrine). Clubs: Chemists' Railway (N. Y.). Hobbies: golf, four sons and one grandson. Address Dow Chemical Co., 90 West St., New York.

Dunning, George Maurice, asst. dir. sales, Michigan Alkali Co. Born, New York, 15 Feb. 1888; mar. Frances L. Ellinger, Brooklyn, N. Y.; educat., Commercial H. S., Brooklyn. Edward Hill's Son & Co., N. Y., office staff, 1904; asst. dir. sales, Michigan Alkali Co., 1924 to date. Memb., Salesmen's Assn. of Am. Chem. Ind. (Exec. Com., 1922-24. Clubs: Chemists' (N. Y.) (House Com., 1924). Hobby: sports. Address Michigan Alkali Works, 21 E. 40th St., New York.

Fergusson, Alexander C., Jr., head bus. same name. Born, Phila., 31 May 1874; mar., Linda Wilson Cook, 1895 (deceased), mar. 2nd, Mabel M. Carter, Wayne, Pa., 1912; educat., Rittenhouse Acad., Phila. Fergusson Bros., Phila., 1892 (founded by father, Alex. C. Fergusson); memb. firm, 1900; sold interest 1914 and started present bus.; pres. and owner Fergusson Labs.; dir. N. J. Co-operative Fruit Growers; vice-pres. Caribbean Consol. Co.; trustee, Lincoln Univ.; Farnum School, Beverly, N. J. (pres. board); Beverly Presbyr. Church. Memb., St. Andrew's Soc. (past pres.), Phila., Kiwanis (past pres., chart. memb.), Order of Runnymede. Clubs: Union League, Mixers, Riverton, Pine Run Country, Meridian (fndr., past pres.), Phila. Chem. (pres. 1925-26). Hobby: tennis. Address, 450 Chestnut St., Phila.

Foy, Joel Hall, treas., Maltbie Chemical Co. Born, Randolph, N. Y., 1866; mar., Emma H. Warner, Randolph, N. Y., 1899; educat., common and prep. schools, N. Y., Buffalo Univ. Retail drug bus., 1887-89; Maltbie Chem. Co., treas., genl. mgr., 1889 to date. Capt. O. R. C., U. S. A. Memb., Am. Phar. Mfrs. Assn. (pres., 1924-25); many trade assns. Hobbies: fishing, motoring, travel. Address, 250 High St., Newark, N. J.

Ingram, Frederick F., Jr., pres., genl. mgr., F. F. Ingram Co. Born, Detroit, 22 Mar. 1890; mar., Agnes Marie Mayer, Detroit, 7 Sept. 1915; educat., Univ. Mich., Ph.C., B.S. (Phar.), 1911. Asst. secy., F. F. Ingram Co., 1912-17; asst. to pres., 1917-20; genl. mgr., 1920 to date. Author of various articles on perfumery in "Am. Druggist," "Pharmaceutical Era," "Bulletin of Pharmacy," "Toilet Requisites," etc. Memb., Phi Delta Chi (chapter pres. 1910-11, natl. secy. 1915-17), L'Alliance Francaise (secy. 1919-22, pres. 1922-24), Am. Phar. Assn., Natl. Geographic Soc. Clubs: Univ. Mich. (life member), Adcraft, Aviation, Town & Country, Natl. Cristmill, Natl. Travel. Hobbies: French history, literature, geography. Address, 1566 W. Lafayette St., Detroit, Mich.

Lichtenstein, Alfred F., pres., treas., Am. branch, Ciba Co., Inc. Born, Brooklyn, N. Y., 6 Aug. 1876; mar. Anna Boyd, North Adams, Mass., 9 June 1905; educat., Brooklyn Polytech. Inst., B. S., 1896; post-graduate work at Univ. Berlin, 1896-97. Tarter Chemical Co., N. Y., 1897-98; Passaic Pt. Works, Passaic, and Arnnold Pt. Works, North Adams, Mass., 1898-1905; Geisenheimer & Co., 1905, partner 1908; Aniline Dyes & Chem. Inc., pres., treas., 1918-21 (sold out to Soc. Chem., Ind.); head of Basle, Switzerland, appt. genl. mgr., Am. branch, 1 Feb. 1921. Memb., Am. Chem. Soc. Clubs: Chemists', Railroad, Collectors. Hobby: postage stamps. Address P. O. Box 994, New York.

MacDowell, Charles Henry, pres., Armour Fertilizer Works. Born, Lewiston, Ill.. 21 Oct. 1867; mar., Janet Borland, Chicago, 25 Oct. 1892; educat., bus. course, Wesleyan Univ., D. Sc. honorary, Univ. Pittsburgh, 1921. Armour & Co., 1887 to date; organized fertilizer and by-products

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New Ruhr By-products Chemical Co.

A by-product chemical corporation backed by 23 Ruhr industrial companies engaged in the manufacture of iron and steel and operating coal mines has been formed in Germany, according to Assistant Commercial Attache Douglas Miller, Berlin. Heading the list of participating firms is the Vereinigte Stahlwerke, the largest iron and steel manufactures in Europe. Other firms include Krupp, Concordia, Gutehoffnungshuette, the Harpener coal mining interests, the Hoesch company, the Stinnes interests which now represent only a small fraction of the former Stinnes holdings, the Haniel concern, the Mannesmann tube company, the Stumm concern and the Essen company. The industrials backing the new company are said to control 90 per cent. of the present coal mining capacity of the Ruhr district as well as coal reserves which will last them indefinitely. The company plans, with the aid of American capital, to enter the nitrogen fixation industry on a large scale. It is planned to construct several plants in the Ruhr district to utilize on a large scale a portion of the coke oven gases which are now wasted. The first plant is to be established at Oberhausen and the nitrogen fertilizer to be made there will be called, "Montansaltpeter." The initial capacity at Oberhausen will be 18,000 tons of fixed nitrogen per annum with plans to materially increase the output in the future. The plant is to have a consumption of 2,150,000,000 cubic meters of coke oven gas annually, and is to be completed early in 1929. Within 10 months after the completion of the first plant, a second Ruhr plant is to be put under way. The process to be employed in the new plant is to be a combination of the Haber Bosch with the so-called Concordia Casale process.

It is estimated that between 9,000,000,000 and 10,000,000,000 cubic meters of coke oven gas are evolved annually in the Ruhr. It is too early to predict what effect the economic utilization of this vast quantity of gas will have on the world's nitrogen situation. Germany is at present the world's largest producer of fixed nitrogen. It is said that the new concern is planning to eventually produce as much as 40 per cent. of German synthetic nitrogen production which will leave less than 60 per cent. for the I. G. Farbenindustrie which is now producing between 80 to 90 per cent. of the German output.

Production of sulfuric acid by the Burma Chemical Industries, Ltd., during 1927 is reported as being the largest since the inception of the industry in Burma. The net profit on operations for the year ($41,000) is considerably less than that of the previous year, but considering the general trade situation it is deemed as satisfactory.

The reduction in the net profits, according to the Department of Commerce, is accounted for principally in the action of the Burma Oil Co., the best customer of the Burma Chemical Industries, Ltd., in contemplating the erection of an acid plant of their own.

Burma Chemical Industries, Ltd., were constrained to enter into an agreement with the company for the supply of a minimum quantity of acid over a period of five years from January, 1927, at a reduced price in order to retain this trade.

After more than four years of research and experimental work, an official of the Czechoslovak Ministry of Agriculture, educated in the United States, has completed the preparation of an artificial fertilizer compound, according to the Department of Commerce. In this process the fertilizer is manufactured from low caloric lignite, which is unsuitable for combustion and which otherwise has little practical value.

I. G. Farbenindustrie, A. G., announces present daily production of viscose process rayon averages 11,000-12,000 kilos, but that further production facilities will double output within a year. Experiments to produce synthetic india rubber are declared to be progressing satisfactorily but the cartel is still seeking a method of enabling exploitation of the process on a large scale.

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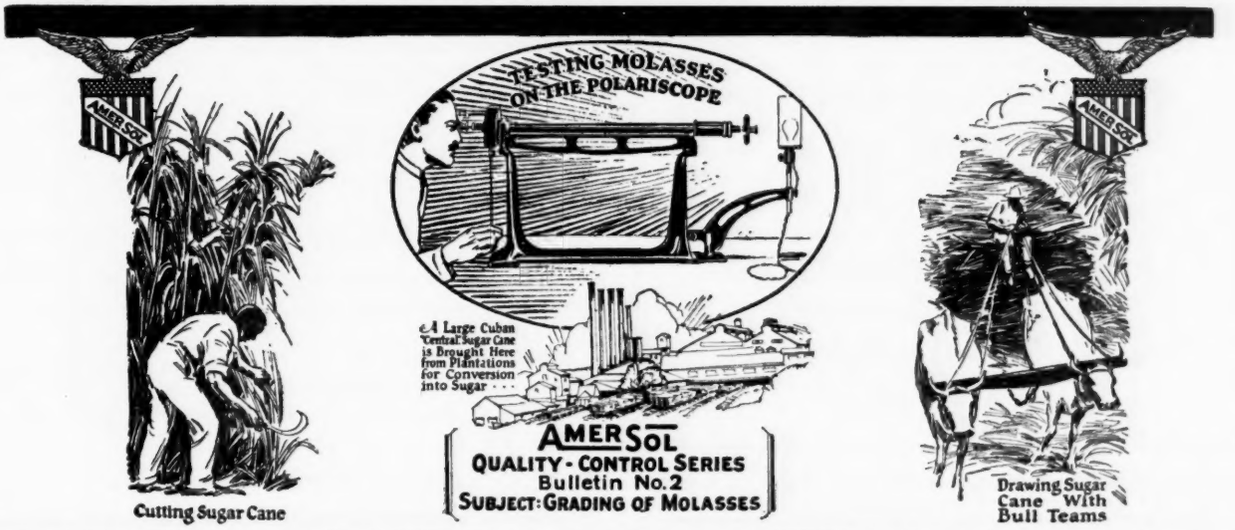
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New Bryan Mound Area Doubles Output

Mining of the newly opened area in Bryan Mound, the wholly owned property of Freeport Texas Co., has resulted in doubling the rate of production from this property over what it was last January, says the "Wall St. Journal." Bryan Mound production is running at an average rate of more than 1,000 tons a day and has run as high as 1,500 tons a day. Production in March was 32,000 tons, against 21,000 in February and 17,000 tons in January. At present it is running at a rate equal to production at Hoskins Mound, owned jointly with the Texas Co., from which Freeport now will get 30% of the proceeds and Texas 70%.

In three months ended March 31 the Texas Gulf Sulphur Co. produced 206,646 tons, against 392,390 tons in the corresponding quarter last year. Freeport Texas Co. produced 194,250 tons, against 173,370 tons last year.

Production at Hoskins Mound in 1927 was 489,385 tons, against 287,140 tons in 1926, while production at Bryan Mound in 1927 was 300,175 tons, against 284,910 tons in 1926.

If the improvement in production at Bryan Mound should prove to be permanent, output might easily run as high as 350,000 to 400,000 tons this year with a material increase in Freeport's earnings.

Report of the Texas Co. showed that it received last year $1,999,618 from its 50% share of the profits of Bryan Mound, against $981,943 in 1926. Freeport's share from this property was approximately the same. In both years Freeport's income from this property was approximately half of the total operating income shown by Freeport before taxes; $3,968,104 in 1927 and $2,096,202 in 1926. This is because sales of sulfur are divided equally between the two mounds.

Sales in 1926 were about 600,000 tons, or 300,000 tons from each property, and in that year an average profit a ton of roughly $3 a share was shown. In 1927 sales showed an increase of 188,792

It is reported that the Norsk Hydro concern in Norway is to undertake the manufacture of phosphoric acid and a compound fertilizer containing nitrogen, potash and phosphorus. The Department of Commerce reports that after the announcement of an agreement between the Norsk Hydro and the German I. G. it was stated that the Norwegian firm would abandon the arc process of nitrogen fixation and use the direct synthetic ammonia method.

It would appear from the present plans that some of the surplus hydro-electric energy will be utilized for manufacturing phosphoric acid, thereby strengthening their position in the fertilizer field, which has heretofore been limited to nitrogenous salts.

Canadian cresylic acid imports from the United Kingdom were about six times greater in 1927 than in 1926 and imports under this item from the United States were doubled in 1927.

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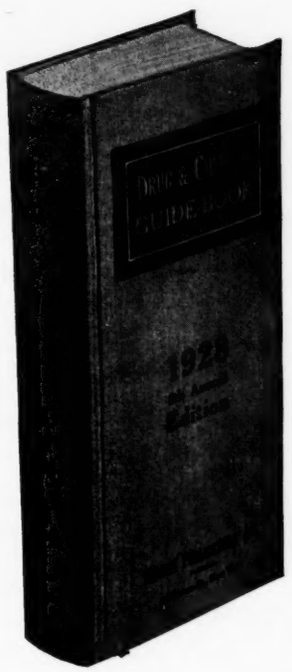
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Sicilian 1927 Sulfur Output of 231,441 Tons Shows Gain Over 1927

The 1927 output of the Sicilian sulfur mines reached a total of 231,441 metric tons, as compared with 208,741 tons during the previous year. Production has declined 50 per cent. since 1900, owing largely to the advent of American sulfur in world markets. Incident to the gradual improvement in the exchange value of the lira, and a slight decrease in the cost of production, a special effort to increase the output was made during 1927, according to Vice Consul Alexander P. Cruger, Messina, Italy.

The largest monthly production in 1927 was recorded in July, when 28,703 metric tons were mined. In August the output reached only 18,239 tons, slightly more, however, than in the corresponding month of 1926. In December, 1927, production declined to less than the quantity mined in the last month of 1926.

Stocks on Hand

Sales of sulfur in 1927 amounted to 268,621 metric tons, as compared with 232,190 in 1926. From a total of 245,199 metric tons on hand December 31, 1923, stocks gradually dwindled to 94,541 tons at the end of 1926 and 59,697 at the close of 1927.

Notwithstanding slightly lower production costs, the Sicilian sulfur industry is far from being in a flourishing condition. The reasons are decreasing production, smaller stocks, and lower prices obtaining for the material.

Plans for Placing the Industry on a Healthy Basis

The Minister of National Economy, in a speech before the Chamber of Deputies, on March 21, 1928, expressed his concern in regard to the critical situation of the sulfur industry, and his conviction that the new mining law would bring about needed reforms and pave the way for a solution of the crisis. In order to attract capital to this industry, a fair return on the amount invested must be assured over and above amortization charges. The industry can not be placed on a paying basis, it is said, unless the heavy burden of the "Estaglio" system of operation is removed.

Under the "Estaglio," or royalty, mode of operating the sulfur mines, the owners obtained royalties from their concessionnaires varying from 30 to 70 per cent. of the total annual yield of the mines. These royalties were paid in kind. This manifestly unfair division of the profits did not tend toward increased production.

The Government now intends to nationalize the sulfur deposits, placing the former mine owners in the position of concessionnaires. They will be permitted to retain only such portion of the profits as remain after the payment of interest and amortization charges.

American Production Compared to Sicilian

Whereas the Sicilian mines produced 231,441 metric tons in 1927, production in the United States amounted to more than 2,000,000 tons. American sales in 1927 reached a total of 2,139,371 long tons, of which 1,350,000 tons were for home consumption and the balance was for export.

Need for More Economical Production Costs

It is realized in Sicily that if the Sicilian mines are to compete on more equal terms with American sulfur there is urgent need of an up-to-date technical organization in the mines. There must be mechanical means of transporting the sulfur from the mines to the railroad, and, finally, provision for rapid and economcial loading equipment at ports of shipment.

Several mines in the Star district near Milford, Utah, have recently struck bodies of oxidized ore containing large quantities of plumbojarosite and some wulfenite. The lead molybdate appears to be uniformly distributed through the ore now being mined, an analyses show an molybdenum content of four per cent.

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Review of Air Reduction 1st Quarter

Net profit of Air Reduction Co. in the first quarter of this year was the largest for any corresponding quarter on record, reflecting partly the general business activity in the diverse lines which the company serves, and partly the results of the numerous important plant acquisitions that were made in 1927, according to the Wall St. Journal. As far as can be seen this improved rate of earnings will be continued for at least the next six months, making 1928 a record year.

Net profit in the quarter ended March 31 was $728,940 before taxes, against $683,361 earned in the corresponding quarter last year. Net in 1928 quarter was equivalent before taxes to $1.06 a share on the 676,203 shares of new stock and after estimated taxes to 94 cents a share.

In the full year 1927, Air Reduction showed earnings of $2,412,597 after all charges including the deduction of $1,905,455 for reserves. This was equivalent to $10.74 a share on 224,597 old shares of capital stock and compared with $2,271,841 or $10.88 a share on 208,855 shares in 1926. The stock recently was split three for one, so earnings in 1927 were equivalent to $3.58 a share on the present capitalization.

Conservative Policy Regarding Reserves

It seems probable that from now on Air Reduction will show a more distinct upward trend in earnings than it has in the past now that the results of new plants recently acquired are beginning to be felt. The management has always followed an exceedingly conservative policy of setting up large reserves, a considerable portion of which logically might be shown as earnings.

The company in 1926 paid income taxes on a portion of its reserves. Net profit shown was $2,271,841, or $10.88 a share on 208,855 shares of capital stock outstanding in that year, an increase of only about $250,000 over the $2,016,865 earned in 1925. In 1926, however, an income tax of $433,441 was paid against a tax of $238,884 in 1925. The 1926 tax indicated an actual income of around $3,400,000, or more than $16 a share on the 208,855 shares of old stock after taxes.

Net shown in 1927 was $2,412,597 on which a tax of $297,292 was paid. There is no reason to believe, however, that there was any actual decline in earnings last year, compared with 1926 when the tax indicated a profit of more than $3,400,000. Gross income as well as net was larger and it is more likely the lower tax was made possible by taking certain losses against which reserves previously had been set up.

A new type of spray gun has been invented in Germany, reports Consul Hamilton C. Claiborne, Frankfort on the Main. The new type of paint pistol differs from the old apparatus in that application is by means of the mechanical action of a rotating device instead of application of paint pneumatically under high pressure. Moreover, it is claimed the appearance of a paint fog which frequently results from using the old gun, is prevented by the new type of apparatus by a method of controlling the air current. A further advantage of the rotary pistol is that it does not have to be driven by compression but is operated by a small electrical appliance which is portable and consumes a small amount of current.

"Gesellschaft fuer Linde's eismaschinen A. G.," Wiesbaden, in cooperation with the I. G. Farbenindustrie is reported as having secured for all of Germany a license for production and delivery of liquid oxygen on a large scale, according to Consul Hamilton C. Claiborne, Frankfort on the Main. Oxygen has hitherto been supplied only in steel bottles. It is now proposed to deliver oxygen to more important customers in tank motor cars. Oxygen will be drawn from the tanks into customers' own high pressure vessels to be distributed to the various departments of their works. The new procedure is expected to result in gradual extinction of small oxygen plants, although it is stated that prices are not to be reduced.

Mathieson 2nd Quarter Over 1927

Net profit of Mathieson Alkali Works in the second quarter of this year is running ahead of the corresponding quarter last year, says the Wall St. Journal. As far as can be foreseen, there is every reason to hope for continued good business which should bring 1928 profits to a new high level.

In the first quarter Mathieson's net ran slightly behind net income a year ago but this was due entirely to increased depreciation reserves. Operating income showed an increase. Net in the first quarter was $429,463 after the deduction of $240,335 reserves, and after preferred dividends was equal to $2.62 a share on 147,207 shares of common. This compares with $446,268 or $2.74 earned in 1927 after deduction of $216,281 reserves

Mathieson has not yet felt the full benefits of the large investments made in renovating the Saltville, Va., plant in the past few years which included installation of entirely new electrical equipment. As long as selling prices remain stable a continued improvement in profits should result from more efficient operation.

More than $5,000,000 Spent on Plants

In the past four years Mathieson put between $5,000,000 and $6,000,000 into its properties, equivalent to nearly $40 a share on the common stock. During this period the book value of the plants has been increased only about $3,000,000. An average of between $9 and $10 a share thus has been put back into the property annually in this period. Roughly half of this has come from depreciation reserves.

Comparisons covering four years follow:

	1927	1926	1925	1924
Oper. profit...	$2,962,581	$2,725,559	$2,285,553	$1,521,477
$ a share.....	18.94	17.34	14.34	9.16
Reserves.....	840,670	771,626	657,321	553,337
$ a share.....	5.71	5.24	4.46	3.76
Net income...	1,832,916	1,679,485	1,465,033	873,064
$ a share.....	11.27	10.22	8.76	5.21

In the past four years about $6,000,000 from reserves and surplus earnings has gone back into the property and only about $1,250,000 paid out in common dividends. Depreciation in the first quarter of this year was at annual rate of more than $6 a share.

Canada's output of chemicals and allied products had a production value exceeding $126,000,000 in 1927, surpassing all previous years since the close of the war. Progress in this branch of manufacturing in the Dominion has been exceedingly encouraging, in that with one slight exception increases have been registered from year to year since the depression following the war. In 1921 output of chemical industries was valued at under $89,000,000. In intervening six years a growth in value of more than 42% has been registered, a growth which is remarkable when it is considered that prices have decreased in the same period by approximately 16%. According to a federal report, Canada's chemical and allied products industry now numbers 560 establishments in which the invested capital exceeds $134,000,000.

Production of mercury in 1927 amounted to 11,276 flasks of 75 pounds each, compared with a production of 7,642 flasks in 1926, according to figures compiled by the United States Department of Commerce. Production was distributed as follows: California, 5,748 flasks; Nevada, 425 flasks; Oregon, 2,082 flasks; Washington, 566 flasks and Alaska, Arizona and Texas, 2,455 flasks. Comparative figures for 1926 are: California, 5,726 flasks; Idaho, 6 flasks; Nevada, 197 flasks; Washington, 489 flasks and Alaska, Arizona and Texas, 1,224 flasks.

Average price of mercury at New York is quoted as $118.16 per flask of 76 pounds, equivalent to $116.60 per flask of 75 pounds. The average quotation for 75-pound flasks for 1926 was $91.90.

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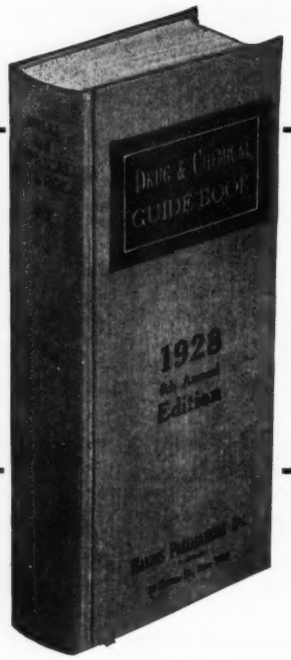
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Italian Tartaric Acid Producers

Societa per l'Industria Chimica Italiana Appula of Milan and the Fabbrica Chimica Arenella of Palermo are the chief Italian producers of tartaric acid, reports Assistant Trade Commissioner E. Humes, Rome. The Appula has recently passed under the control of the Distillerie Italiane, the largest Italian distiller of alcohol. Among other raw materials the Distillerie Italiane uses grape cake for distilling alcohol and has plans for the development of the distillation of this product on a large scale. Hence the interest of the company in the manufacture of tartaric products, an industry allied with their own through the use of the same class of raw materials. The Appula and the Arenella have agreements with the German tartaric acid producers, Joh. A. Benckiser of Ludwigshafen and C. N. Boehringer Sons of Nieder-Ingelheim covering allocation of markets, price fixing and division of proceeds. This agreement was reached in the autumn of 1925 and is to continue through August, 1930.

The Montecatini of Milan, the outstanding figure in the Italian fertilizer and chemical industries, and the Soc. Italiana per il Gas of Turin, known as the Italgas, have recently acquired an interest in the Arenella. The Italgas controls the SIPE—Bonelli—Italica dyestuffs group which was amalgamated last year. The Board of the Arenella has been revamped to include Mr. Guido Donegani, President of the Montecatini, and Avv. Panzarasa and Prof. E. Belloni of the Italgas. A marketing cartel has been formed among the principal Italian citric acid producers, including the Arenella, the Appula, the Soc. Sava and La Citrica of Messina, which is controlled by the Italgas. A central selling office will be established, probaly at Messina.

Rapid rise is shown in cresylic acid imports into the United States, according to the Chemical Division Department of Commerce.

Imports for consumption in 1927 totaled 9136.516 pounds valued at $567,802, compared with 5,702,740 pounds at $331,550 in 1926 and 2,163,557 pounds at $122,742 in 1925.

Imports of "metacresol, orthocresol and paracresol, purity less than 90 per cent," rose in 1927 to 174,094 pounds valued at $35,054, an increase of 65 per cent. over the preceding year, when 105,238 pounds valued at $15,040 were brought in, and five times as much as in 1925, when 34,874 pounds were entered for consumption with a value of $5,741.

To the foregoing may be added the imports of "acid, carbolic liquid (cresylic acid or cresol)," which in 1927 amounted to 611,810 pounds, value $38,874, as compared with 29,932 pounds, value $4,748, in 1926 and 98,762 pounds in 1925 with a value of $23,618. This increase is attributed to the inclusion in cresylic acid of high boiling phenolic bodies which are now being utilized in the manufacture of disinfectants.

One of Australia's important metal companies has announced its intention of embarking upon the manufacture of fertilizers from atmospheric nitrogen in its works at Risdon, Tasmania, according to the Department of Commerce.

The company's chairman states that the organization has command of the necessary capital and can control the technical knowledge and experience necessary for the successful commercial fixation of nitrogen.

The company has heretofore confined its operations to the electrolytic treatment of zinc concentrates purchased from the Broken Hill mining companies.

The Tasmanian Government is said to have expressed its willingness to carry out any works necessary for the extra supply of hydroelectric power required by the new plant.

A brand of pure ethylene glycol, known as Glysantin is now being produced by the I. G. for use as an "antifreeze" in automobiles.

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Imperial Chemical Shows Progress in 1st Year

Imperial Chemical Industries', Ltd., progress during the first year of its operations is reviewed in the report of Sir Alfred Mond, chairman of the board, delivered at the first annual meeting in London, May 30, and which reads in part as follows:

"In the circular which we issued to our shareholders, we stated that, on the basis of the earnings of the four participating companies and their subsidiaries for the last completed financial years, we were satisfied that, after making due provision for reserves, the future income of the new company, if all the shares are exchanged, should exceed £4,000,000. The profits shown in the balance sheet are four and a half million pounds—£4,567,224, to be entirely accurate.

"After the appropriation to the reserve account, provision for income tax, and carry-forward, we recommend for distribution £3,950,236 19s 4d, which will make eight per cent. for the year on the ordinary shares and 1¾ per cent. on the deferred—which means a higher dividend for those who exchanged their shares at the time we advised them to exchange than they had in the previous year. In addition to this, we have created a reserve fund of no less than £700,000 in our balance sheet; and you have to add £1,000,000 capital appreciation—£1,700,000 in the first year of our existence. The £700,000 is arrived at by taking £409,000 from the profit and loss account and £291,000 from the share premium account, from shares which have been exchanged in purchase of other businesses in the course of the year."

International Relations

As regards international relations, the chairman said that reports in the press have considerably exaggerated the actual facts. "Naturally, a company of our magnitude and our history has very important relations, both on the Continent and in America, with important industrialists carrying on similar and allied operations. That is nothing new, it is a thing which always existed and I hope always will exist. We have friendly relations with the great Allied Chemical Co. of America, of whose board I have the pleasure to be a member. It is a very ably managed business, and I am glad to think we have a large stock interest in that company, which is carrying on similar business. With Sir William Billings we are allied in many directions and also with du Pont de Nemours, the most outstanding firm of chemical explosives makers in America and elsewhere. These relations and others are of the utmost value to your company, and to corporations of our kind.

"A good deal has been said during the course of the year about the great German company, the Interessen Gemeinschaft. I am glad to think that I have during the year had a number of conversations, and made contact and acquaintance with the people who manage that huge concern, and that, while it is very far from the truth, as I have frequently seen it stated that all kinds of agreements have been come to, those relations in many directions and those contacts have proved of value, and I think, will, as time develops, probably be more useful still."

Attitude Toward Alliances

"I want to declare categorically, and once and for all, that this company will never make any understanding or agreement which will in any way hamper the legitimate development of its activities either in this country or the British Empire. We have laid it down as a cardinal fact that the British Empire and Great Britain are one and indissoluble. We lay it down as a cardinal fact that we are the guardians of the national safety in the way of the production of chemical products, that we are the guardians of the development of the chemical industry of this country and of the Empire, and that no considerations whatever, monetary or otherwise, would ever allow us to adopt a policy which felt inflicted any damage upon this great trust which is imposed on us."

Further development of the company's fertilizer output in its new plant at Billingham, which is producing nearly four times the synthetic fertilizers this year that it produced last year, was predicted by Sir Alfred. Other important developments at Billingham were forecast. "We are manufacturers there of ammonia products and nitric acid, and we expect shortly to be putting into operation a plant to manufacture methanol, a very important raw material of our dye industry which we now have to import at great expense, and also to develop those synthetic products, with the new high pressure and other appliances at our disposal. In fact, we are only at the beginning of a new field of chemistry, and connected with that I want to say a few words on the important subject of oil from coal. We have not neglected the study of this very important subject. It is obviously one of very great importance from the point of view of national and imperial defense. We have been studying this problem for some time and not long ago I saw the first petrol produced from coal on a small scale in our laboratories at Billingham. Our problem is not quite the same as that of the Germans, who are working from brown coal; but we are proceeding with it, and we are satisfied that the technical solution can be found."

Comment on Finance Company

With regard to the Finance Company of Great Britain and America formed by Imperial Chemical Industries and the Chase Securities Corporation, Sir Alfred said only that "the idea of forming this company was a result of conversations which I and the president (Sir Harry MacGowan) had with representatives of great financial institutions over there, the object being to bring the great capital strength of America to the use of industrial purposes in this country, the Empire, and the world. You are fifty-fifty in this company, and, personally, I feel convinced that, as we continue our operations, you derive a very reasonable profit from your investment in this corporation, and that industry generally will benefit by a combination which is almost unique, I imagine, with the personnel involved in their knowledge of finance and industry on both sides of the Atlantic."

Public Service Commission at Albany, N. Y., approves new freight rates as follows: New York Central (East) acid (acetic) carload, from Glenfield (ex Glenfield & Western Railroad) to Binghamton (on Delaware & Hudson) 32c, reduction 4.5c per cwt. Effective July 11.

Delaware, Lackawanna & Western, soda (caustic), in metal cans packed in boxes, cases or otherwise, carload, minimum weight 50,000 pounds, and lye (concentrated), in metal cans, in barrels or boxes or in bulk in barrels, carload, minimum weight 40,000 pounds, from Solvay and Syracuse to stations on Delaware & Hudson and Cooperstown & Charlotte Valley.

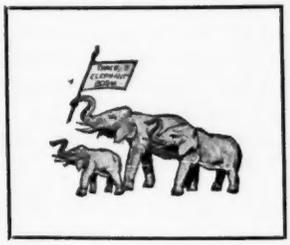
Commodity rates established are the same as those at present in effect on caustic soda in lined wooden barrels or in iron drums. Reductions effected. Effective July 9.

Of the following railroads on soda ash, carload: Delaware, Lackawanna & Western, from Solvay and Syracuse to Mechanicville (on Delaware & Hudson) 15c reduction 1c per cwt. Effective July 9.

West Shore, from Syracuse to Mechanicville (on Boston & Maine) 15c, reduction 1c per cwt. Effective July 9. New York Central (East) acids (muriatic, nitrating and sulphuric), carload from Rensselaer to Cohoes (on Delaware & Hudson) 11.5c (reduction 4.5c per hundredweight). Effective June 28.

Italian alcohol production during 1927 shows 1927 production totaled 482,332 anhydrous hectoliters as compared to 415,603 anhydrous hectoliters in 1926.

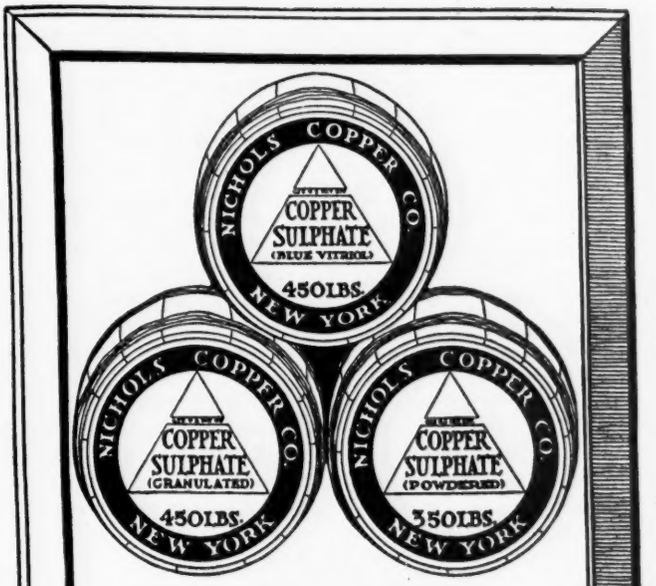
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Japanese Electrolytic Soda Plants Suffer From Raw Material Defects

Japan has 12 factories for manufacturing electrolytic soda. Tokyo has two factories each producing chlorine to the amount of 10 tons a day There are factories in Fushiki, Toyama prefecture, and in Taguchi, Niigata prefecture, each producing 11.2 tons of chlorine a day. There are four factories each producing three tons a day and three factories each producing less than that. The total Japanese output of chlorine per day is about 50 tons, so that each factory has an average capacity of four tons a day.

Dr. Shuichiro Ochi, Japan's foremost chemical authority, particularly on the problems of chlorine, in a statement to CHEMICAL MARKETS said this shows a wide variance from conditions in foreign countries, especially the United States, which has 48 factories each having an average capacity of 10 tons a day.

This backwardness of the Japanese soda industry is largely due to various defects in the supply of soda and electricity. Though these defects are the natural outcome of particular conditions in this country, there is much room for further study which ought to lead to improvement.

The Japanese Process

Usually about two pounds of soda-hydroxide are used in producing one pound of rayon. But some believe that in Japan about four pounds of soda-hydroxide are used to manufacture a pound of rayon. If this be true, Dr. Ochi declared, Japan must have consumed about 10,000 tons of soda-hydroxide to produce 5,000,000 pounds of rayon and 22,000 tons of soda-hydroxide last year to manufacture 11,000,000 pounds of rayon in 1926. The output of rayon this year is expected to be twice that of last year and hence the demand for soda-hydroxide will be correspondingly large.

As chlorine also is used in bleaching rayon, impetus will be given to its development by the rayon industry. But the demand for soda-hydroxide and chlorine does not increase in like proportions. Assuming that the demand for soda-hydroxide is doubled, that for chlorine will be increased by less than one fourth. It is clear that the expansion of the demand for chlorine is necessary from the standpoint of both the electrolytic soda industry and the rayon industry.

The Consuming Industries

Dr. Ochi further said in 1927 Japan produced chlorine to the amount of 14,000 tons, six per cent. of which was exported, the remaining 13,000 tons being used in domestic industries. Of the last, 75 per cent. was used in pulp bleaching, 17 per cent. in textile bleaching, four per cent. in the manufacture of synthetic chlorine and 1.5 per cent. for miscellaneous uses. About 96 per cent. of the entire amount was used in the form of bleaching powder and only four per cent. in other forms.

Although there is much room for increasing the use of chlorine in disinfecting water and sewers, manufacturing coloring matters, and in sugar bleachings, all these would not be sufficient to consume the entire supply of this chemical. Its demand will be increased, however, if it can replace sulfurous acid which is now used in the manufacture of sulfite paper and chlorine pulp.

Penn. Salt Financial Position

Among investment securities closely held in Philadelphia is stock of Pennsylvania Salt Manufacturing Co., incorporated in Pennsylvania in 1850 as a chemical manufacturing company, reports the Philadelphia News Bureau of "Wall St. Journal." Several months ago there was considerable activity in the stock, believed to represent in part accumulation by investment trusts and undisclosed New York and western buying. There are about 2,900 stockholders, with small average holdings, including a number of estates.

The book value of the stock figures nearly $87 a share, but does not take into account undisclosed assets which may be estimated at $50 a share, covering increase in value of land and trade marks such as Lewis Lye, which has a considerable value.

Dividends have been paid continuously since 1863, the rate having been 12% up to 1915. Present rate is 10% and future dividends are likely to depend somewhat on the extent to which the policy of financing improvements out of earnings is continued.

The properties are being steadily modernized, increasing efficiency of operation and enlarging profits. During the past four years ended June 30, 1927, allowance for ordinary repairs, replacements, depletion, depreciation and other plant adjustments have amounted to $5,370,369, an average of $1,342,592 or about $9 a share a year. Without increase in capital or bank loans there has been a continued expansion. Michigan Electro Chemical Co. was purchased in 1924 and Eagle Lye Co. of Milwaukee in May, 1926. Additional space leased to Reading Bone and Fertilizer has proved highly satisfactory.

A comparison of the income accounts for the years ended June 30, 1915, and 1927 follows:

Year ending June 30	1927	1915
Inc. aft. div. repairs, replace & depreciation	$1,667,322	$1,115 997
Other income	401,203	163,875
	$2,068,525	$1,279,872
Deduct int on com. notes	.....	92,246
Depreciation	663,624	200,000
Dividend	750,000	750,000
Federal tax	191,050	.....
Total deductions	$1,604,674	$1,042,246
Balance	463,850	237,626

Company's reports show amount available for dividends was $1,213,850 in 1927 or 16.2% on $7,500,000 capital stock compared with $987,625, or 13.2% earned in 1915.

French Glycerin Position

Since the close of December, 1927, the French glycerin situation has become worse, with prices declining steadily, according to Consul General Wesley Frost, Marseille. On March 31, 1928, quotations in francs per 100 kilos (1 franc—$0.0393 in United States currency) delivered at factory, were: Saponification, 500; 80 per cent., 405; 40 per cent. 170. On April 21 quotations for the same grades were, respectively: 480,385, and 160. Local brokers state that they do not know what is happening in the American market except that the principal explosive manufacturer has been selling glycerin instead of buying as usual. They appear to believe that American chemists have evolved a new substitute—other than glycol—which will replace glycerin entirely in the manufacture of explosives. In any event, glycerin exports from Marseille have been almost nil practically since October, 1927. During the first three months of 1928 there were shipped from Marseille to the United States 79,087 pounds of crude glycerin as compared with 352,703 pounds during the last quarter of 1927.

I. G. Farbenindustrie expects to double its production of benzine through the liquification of coal within the next year, President Bosch announced at the general stockholders' meeting held at Frankfort, May 24.

President Bosch said that an addition to the Leuna works, which is nearly completed, will enable the company to manufacture 100,000 tons of benzine this year and that next year the production can easily be doubled without any further enlargement of the plant.

The company also intends to take up the hydrogenation of hard coal on a larger scale and to continue its efforts to make the extraction of lubricating oils, paraffin and other substances from coal profitable.

A dividend of 12 per cent. was declared.

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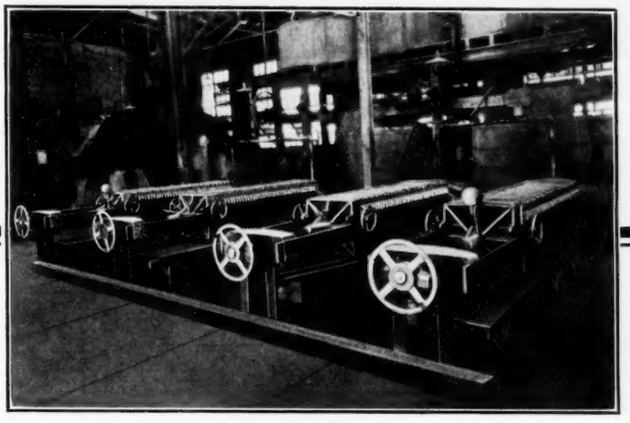
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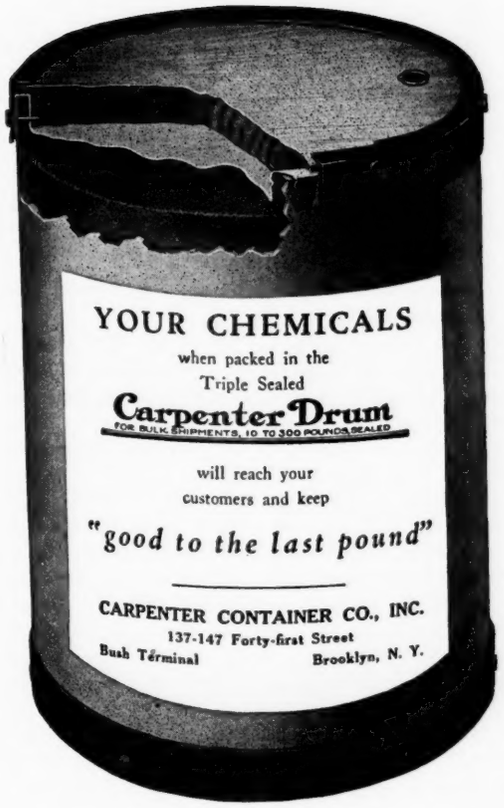
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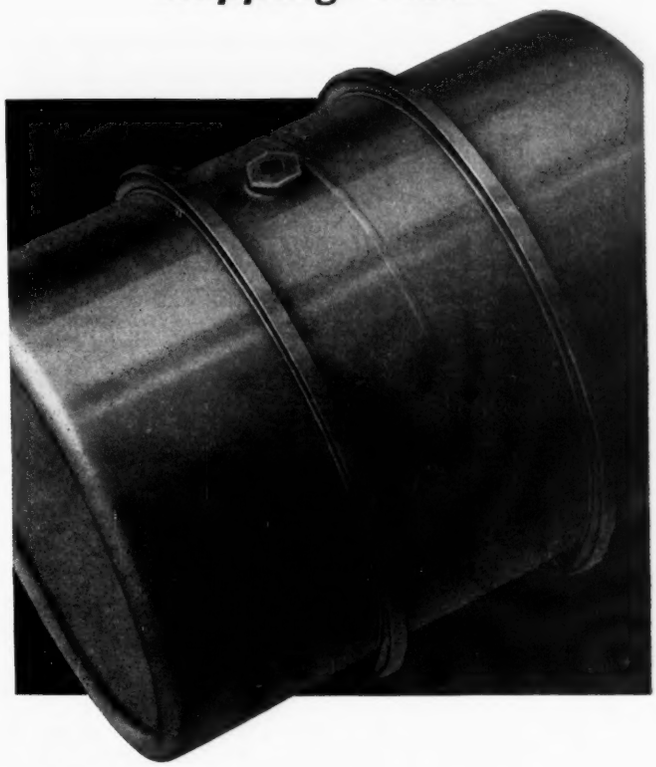
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I. G. 1927 Financial Statement

I. G. Farbenindustrie issues its financial statement for 1927, showing the following comparison with 1926:—

	Millions of Marks	
	1926	*1927*
Surplus carried forward	1.81	2.40
Gross profits	186.07	224.30
General expenditures	42.12	48.74
Depreciation	75.24	74.74
Net profits	70.52	103.21
Dividend on 3½ per cent. preferred shares	0.15	?
Dividend on 6 per cent. preferred shares	...	....
Dividend on common shares	66.15	95.59
Dividends in percentage	10	12

The balance was less liquid December 31, 1927, than a year previous, owing to new construction and investments. This is shown by an increase in the entries of bills receivable, reserves, and bills of exchange. The last may be accounted for by the prolongation of credit to farmers for nitrogenous fertilizers. A comparison of bank debts and bank credits shows a balance of some 98,000,000 marks at the close of 1927. Further sums have since been received through the option in connection with the new 250,000,000 marks convertible bonds. The report states that "considerable advance payments" had been made, and that despite "a weak bourse, the loan had been well received."

The list of outside holdings appears in the statement with a valuation of 296,140,000 marks. It is noted that the acquirement of shares in explosives companies through exchange is not mentioned. Moreover, the interest on outside holdings is not mentioned separately, since plant and outside holdings proceeds are in one sum. Therefore, it is impossible to appraise the profits of the Merseburg-Leunawerk, manufacturing nitrogenous product, methanol, and motor fuels, and capitalized at 135,000,000 marks. Although some 34,000,000 marks of this capital is not in the direct possession of the I. G., the latter company is believed to own it directly.

The Swiss calcium carbide industry is dependent very largely on foreign markets for its output, reports Assistant Trade Commissioner Kenneth M. Hill, Berne. While manufacturers complained of the price situation in 1927 as a result of considerable international competition, especially in the Scandanavian countries, exports increased from 8,498 metric tons in 1926 to 12,264 tons in 1927. Since the close of the World War the Swiss industry has experienced a decline due largely to the erection of modern plants in other European countries. The use of up-to-date equipment permits the new plants to compete with the Swiss industry, notwithstanding the low cost of hydroelectric energy in Switzerland. A considerable portion of the Swiss production is used in the manufacture of calcium cyanamide and other important chemicals such as acetic acid, acetone, acetic anhydride, alcohols, and "metaldehyde." The 1927 production and sale of cyanamide is about equal to that of 1926. Prices, however, decreased considerably due to international competition.

Bishopric and Lent Co., Expanse, Sask., applies to Advisory Tariff Board, Ottawa, Canada, for the imposition of an import duty on sulfate of soda. Company claims that without some protection, it cannot compete with American manufacturers in the Eastern markets due to heavy freight rates.

German Potash Syndicate reports sales for year ending April 1928, totaling 1,289,738 tons of pure potash, against 1,212,068 tons a year ago. Sales to the United States increased by 10 per cent.

Du Pont Rayon Co. plans to acquire 100 acre tract at Waynesboro, Va., upon which to construct an acetate rayon plant.

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U. S. Alcohol Imports Decline

Imports of alcohols, including fusel oil, into the United States have steadily declined during the past five years. In 1923 the imports were valued at $1,239,358, as compared with $829,714 in 1927. Shipments from the United Kingdom dropped from $240,907 in 1923 to $17,647 in 1927, while France registered a decrease from $218,624 to $91 for these years, respectively. On the other hand, increased shipments from Germany are noted, $732,243 worth of alcohols, including fusel oil, having been shipped to the United States in 1927, as compared with $254,164 worth in 1923.

Of the 1923 imports entered for consumption of alcohols including fusel oil, there were included 43,558 pounds of amyl alcohol with a value of $18,011 and 3,147,848 pounds of fusel oil valued at $1,020,805, while in 1927 the imports of amyl alcohol dropped to 4,768 pounds, valued at $1,534, and fusel oil imports dropped to 356,386 pounds having a value of $54,213.

Total quantities of zinc oxide and lithopone imported into Canada in April were, respectively, 639,164 pounds valued at $41,341, and 779,269 pounds valued at $34,558. The share of the United States amounted to 583,540 pounds valued at $37,786, the remainder being supplied by Netherlands and Belgium. Lithopone, on the other hand, originated from the following countries: United States, 439,060 pounds, value, $21,466; Germany, 154,292 pounds, value, $5,460; Netherlands, 96,320 pounds, value, $3,872; and the United Kingdom 89,597 pounds, value, $3,760.

The total imports of zinc oxide and lithopone for the corresponding month of the previous year were, respectively, 1,181,086 pounds valued at $77,596, and 708,835 pounds having a value of $31,501.

There was relatively little change in the shipments of manganese ore more in 1927, according to the United States Bureau of Mines, Department of Commerce. The shipments of this grade amounted to 44,741 long tons, valued at $1,151,918, in 1927, compared with 46,258 tons, valued at $1,228,663, in 1926. Shipments of metallurgical ore totalled 27,730 tons, valued at $446,781, and of chemical ore totalled 17,011 tons, valued at $795,137. This is an increase of 1,200 tons in metallurgical ore and a decrease of 2,700 tons in chemical ore shipments.

American Potash Co. plans expenditure of approximately $2,000,000 during the next year in constructing a potash refinery, sinking a shaft and installing mining equipment at its potash deposit near Odessa, Tex. Refinery will have capacity of 2,000 tons daily. Company's assets in potash holdings are valued at $3,000,000.

American Zinc Institute's honorary foreign correspondent estimates world stocks of zince June 1 at 66,200 metric tons of 2,204.6 pounds each, compared with 66,100 tons May 1, increase of 100 tons. Stocks April 1 came to 62,900 tons, March 1 to 61,100, January 1, 1928, to 56,100 tons and January 1, 1927, to 43,600 tons.

U. S. Tariff Commission dismisses, June 19, applications for investigations into cost of producing acetaldehyde and sodium sulfate as preliminary studies showed that the facts in both cases did not warrant a formal investigation with a view towards altering rate of duty.

Corn Products Refining Co. makes contracts with Packard Motor Car Co. and Studebaker Corp. to supply them with a specially processed starch to be used in casting molds.

Linder & Co., Inc., Boston, moves sales office to larger quarters at 88 Broad St., that city.

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"WE"—Editorially Speaking

The secret has leaked out, as secrets in the chemical industry are pretty apt to do sooner or later—generally sooner—that one of the big alkali companies has been working the metropolitan sales area by telephone. Both telephone and telegraph have long been favorite business instruments in chemical fields. Brokers and local distributors do most of their business by wire, but a carefully planned sales campaign by a manufacturer painstakingly combing a territory by telephoning for every possible prospect, with carefully checked results, is a new element in sales which we commented on editorially in our February issue. There is a deeper significance to this telephone business than appears on the surface. It is a sales method which, with the high cost of distributing so much to the forefront, deserves conscientious study. Obviously, the telephone companies will coopoerate actively, and they have accumulated considerable experience that should be useful to any firm making this sales experiments.

Whether the Republicans or the Democrats prevail in November it is shrewdly guessed that our old friend, the tariff, will take the floor of Congress during the next session. When Grover Cleveland said that this was a local issue he did not go far enough. It has been a personal issue. Each industry very selfishly, and very naturally, striving to secure as much protection as possible for its manufactured products, endeavoring at the same time to obtain free access for its raw materials. But there are some new elements in the tariff situation that upset this perfectly understandable tariff psychology. There is a growing tariff sentiment in the South, as that section develops industrially, and there is also a growing tariff sentiment among the farmers. Curious as this change appears it is probably going to be quite insignificant compared with the changing tariff attitudes of finance and labor. Our scale of living is so high above that of the rest of the world that it is obvious to labor leaders that protection is necessary to maintain our present wage. One of the most effective speakers at a recent tariff conference luncheon in New York was a two-fisted glass blower who spoke more plainly than any capitalist ever dared. In financial circles, however, tariff sentiment is waxing cool. Foreign investments—"Where the treasure is there is the heart also." Mr. Edgerton's article on the tariff is, therefore, timely, and he speaks as one with authority, being the executive head of what is as close to the official body of American manufacturers as we have.

And speaking of bankers, as we were, one of the younger executives in the chemical industry, a man who has risen high and quickly from a financial beginning, asks some very pertinent questions. There was one impertinent question, however, that Mr. Thom might have added to his list, and we suggest that you try this on the next banker you meet—"How much capital would you advance on a long term loan for the establishment of a rival bank on the opposite corner ?" That seems to us to be the very kernel of the question of foreign industrial loans as they are viewed by American industrialists.

Legal documents are seldom highly to be recommended as good summer reading; but we would be failing in our duty, if we did not point out especially an article by a Baltimore attorney to our readers. Mr. Niles has but recently been in the thick of an interesting case arising out of an explosion during the loading coal-tar pitch upon a steamer with coal handling machinery. He therefore has upon his finger tips the law upon the responsibility for damages arising out of the transportation of chemicals. Rights and wrongs, which he makes so clear and interesting, are not always just what and how a layman might expect.

Although Dr. Baker's article "Trade Associations and Industrial Progress" was not prepared specifically for CHEMICAL MARKETS it ties up admirably with the consensus of opinion expressed by members of the industry in answer to the questionnaire which we sent out. Dr. Baker traces the workings of a trade association from its very foundation to that point which reaches a high state of efficiency. Beyond this he recommends a closer co-operation between various associations of allied industries—practically the sum and substance of the recommendations in our recent editorial.

There are two sides to every story. Though it would seem that Mr. Thom has presented a "bullet proof" argument against a too thoughtless lending of American money to strong European competitors, Dr. Fournier, from the economists point of view, advanced some mighty convincing arguments supporting this present day fad of the American banker. Of course, all economists are traditionally "free traders," but Dr. Fournier brings out some points well worthy of consideration in refuting some of our industrialists' strongest points.

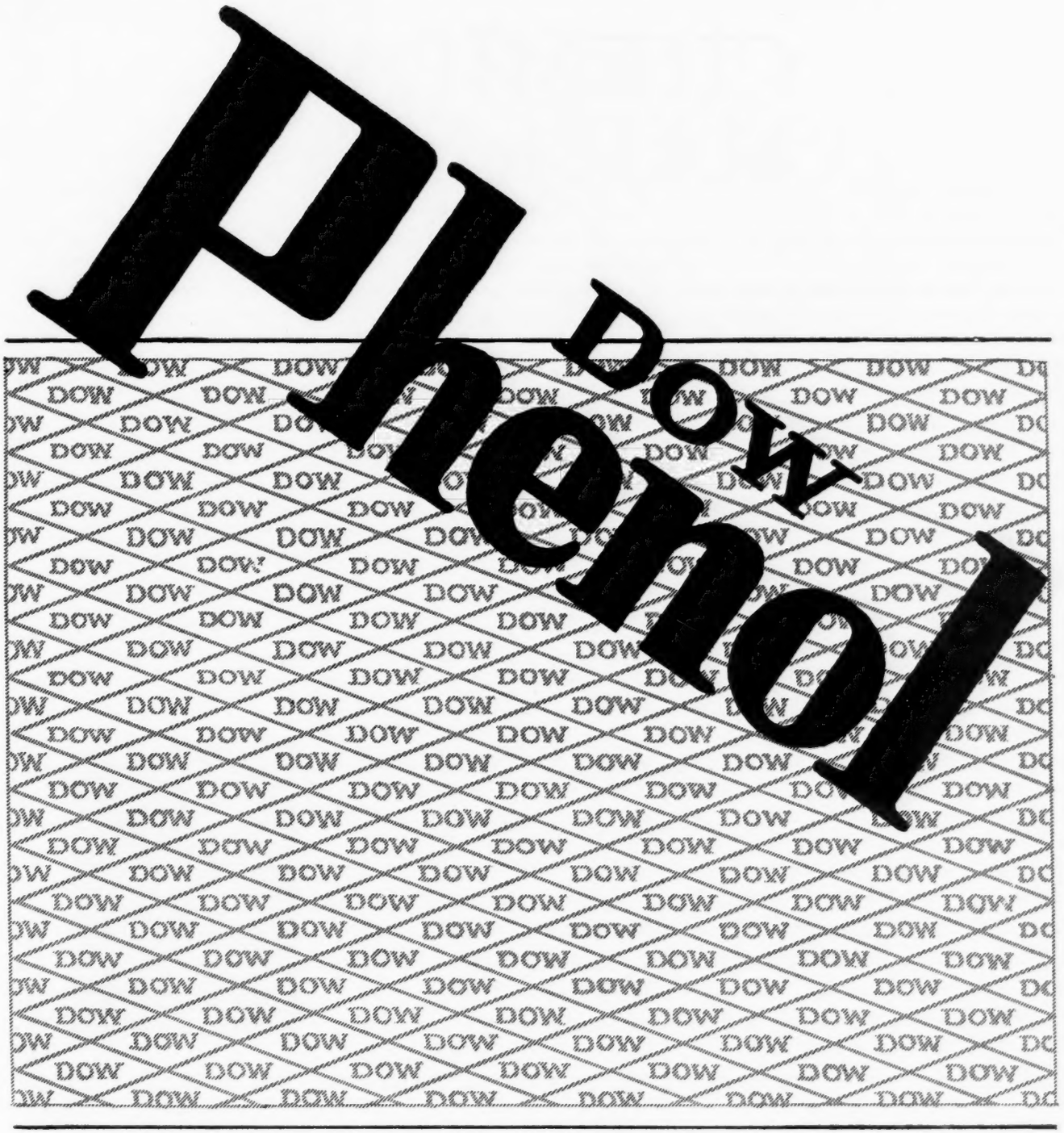
Probably the greatest hindrance to an extention of American export trade to-day is the fear which our manufacturers and exporters have of extending long term credits to foreign customers. It is no secret that countries throughout the world, particularly in South America, prefer to do business with those two leading commercial rivals of ours—England and Germany—solely because of the more attractive terms of credit which they are granted. While no one recommends that we rush blindly into this type of trade—to regret it at leisure—it would be worth while to go into the matter carefully, follow out some of the ideas suggested by Mr. Whearty; compare notes with our fellow exporters; take advantage of the various agencies who are only too willing to help in this perplexing problem.

AUGUST FEATURES

Continuing our series of reviews of chemical conditions in foreign countries, our August issue will contain an article on the Belgian industry, written by an authority on the subject in Belgium.

In one of our issues earlier this year we published an article on recent developments in chemical tank cars. This article attracted wide spread interest and we are following this up by another along the same line. It is written by a different author, but one who is considered an expert in his field as was Mr. Belding.

Not so many months ago the entire country was intensely interested in the progress of the Mississippi flood and its attendant relief. Not much was known on the surface of the role played by chemicals in this relief work, so we are publishing an article of first hand information by an active figure in this work.



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